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The Games machine

COMPUTER LEISURE ENTERTAINMENT TX:022 SEPT 1989

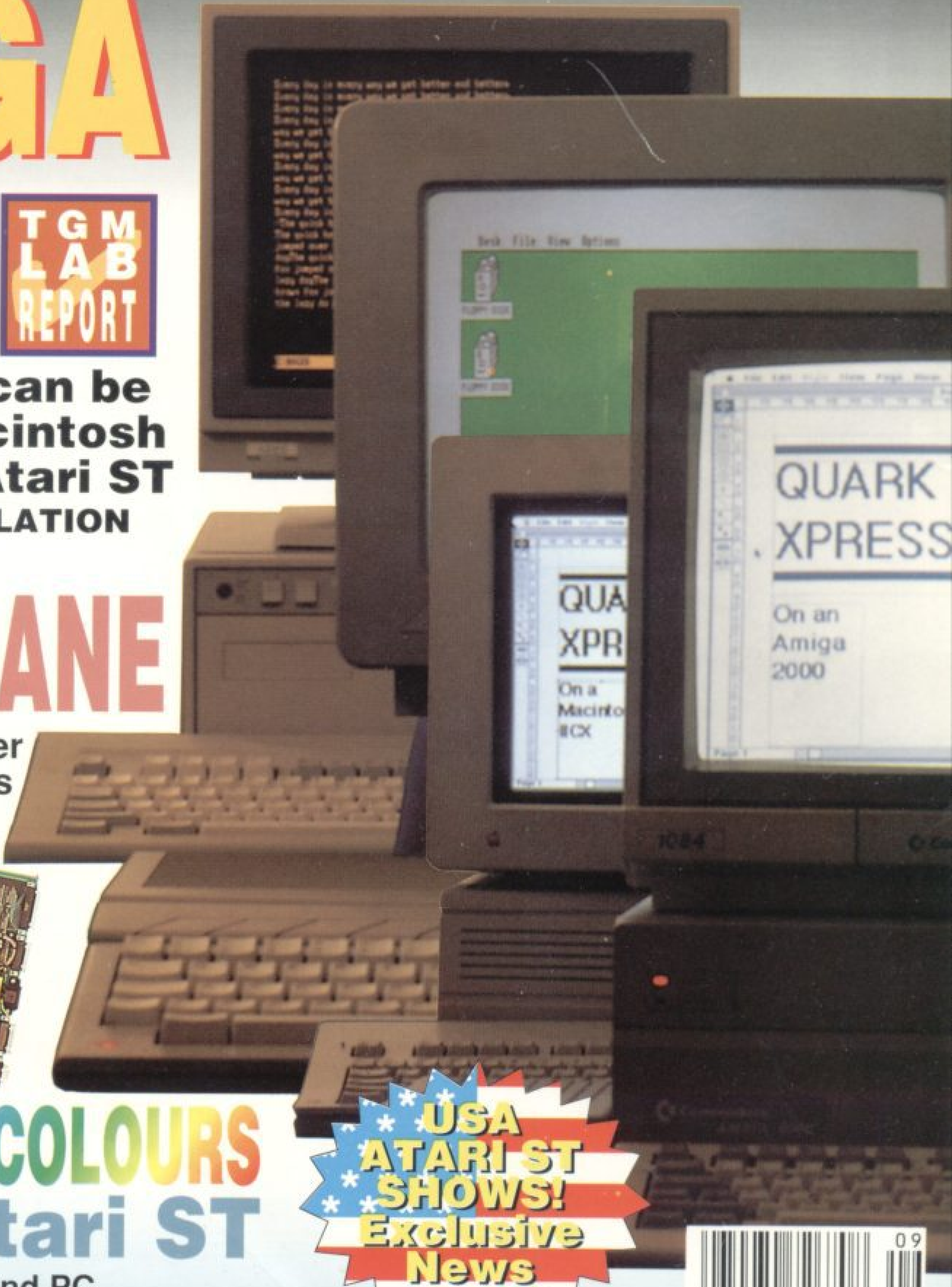
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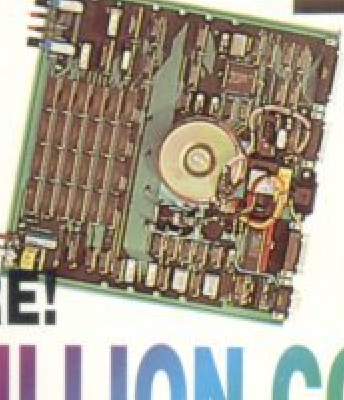
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The Games machine

IN THIS ISSUE...

REGULARS

Computer magazines are getting increasingly specialised as everybody places their bets on ST or Amiga dominance of the leisure market; and even within the formats, concentrating on EITHER games OR the more serious software. It's as though magazine publishers regarded their readers as stuck in claustrophobic pigeon-holes. At TGM we've always regarded computers as fun, whether it be playing the latest blast-'em-up on the Spectrum or laying out a page on a Mac IIcx and drawing a stuffed bullfrog to brighten up a features page using Adobe Illustrator. Computer users do move from applications (writing a fanzine on your Spectrum perhaps) to playing games for relaxation. That's why TGM covers everything. But we're proud that — be it review or an article on using Mac software on an Amiga — what you read in TGM is tried and tested by experts and the writing is authoritative. That's why you buy TGM — that's why we write it. The best computing years are yet to come...



AN EYE ON THE FUTURE

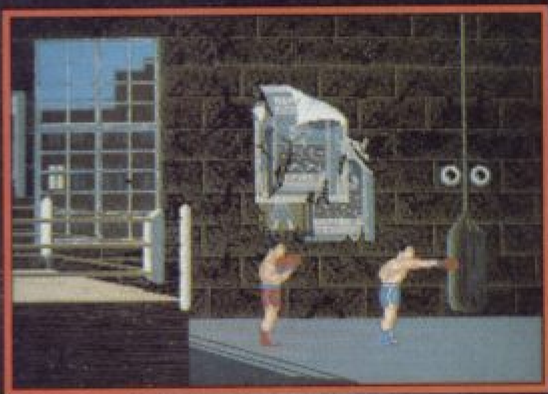
COLOURS FOR THE ATARI ST — The Parsec Graphics Interface brings over 16 million on page 14, though 18 months after we first reported on it...

FEATURES

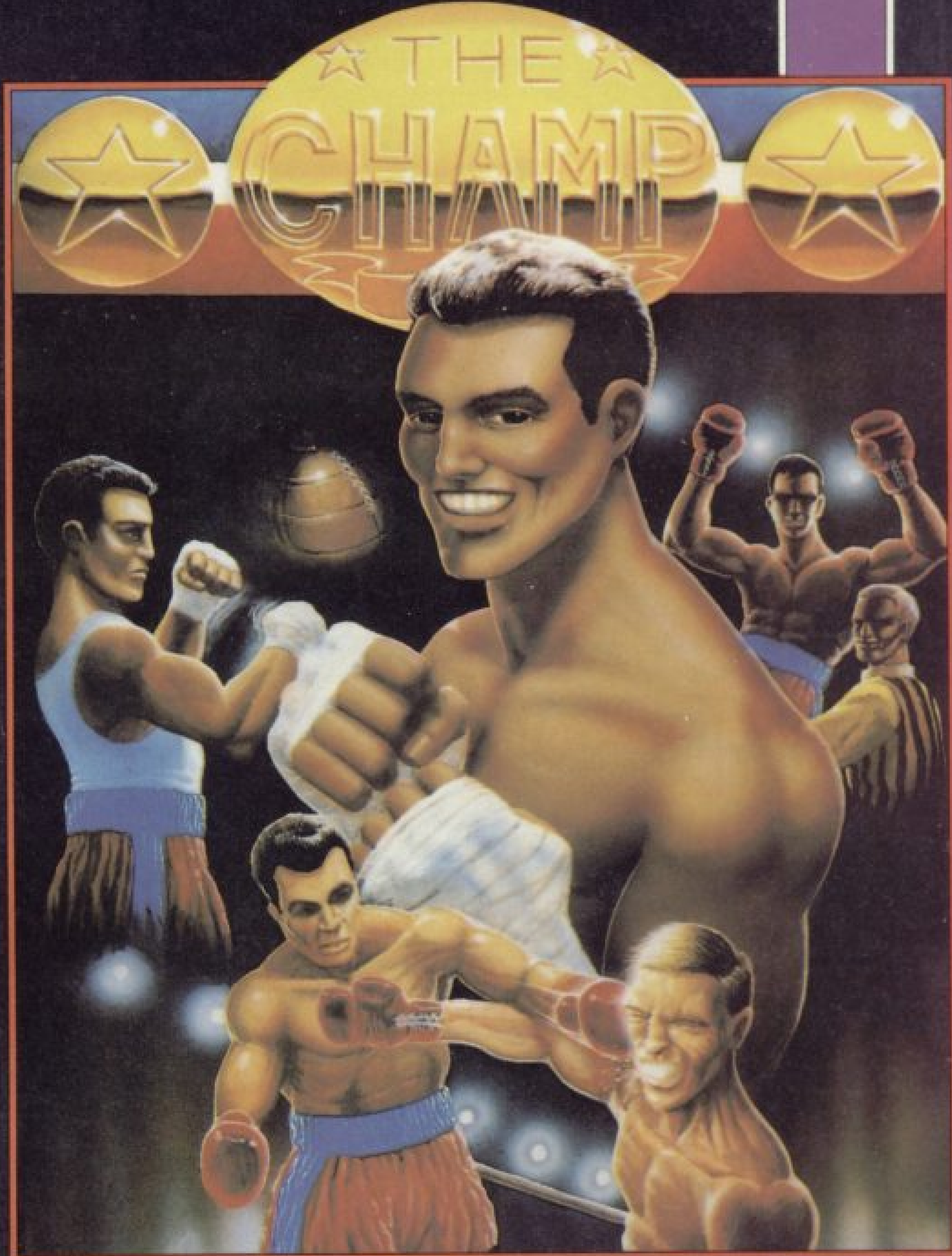
CENTRE BYTES

AND WIN...








THE
CHAMP


SKATE OF THE ART

NEWS 'N' PREVIEWS

STUFF THAT HAPPENED — STUFF THAT WILL

GUNNING FOR A MARKET

After the luke warm reception to the Sinclair Lightgun, Cheetah are planning to bundle with their new lightgun, the Defender, six specially designed games from top budget software house Code Masters. Keen not to disappoint, as the Sinclair version has, Code Masters are placing 'a crack team of top programmers' on the job.

The games are Super Tranz-Am (race across America); Bronx Street Cop (stages, from training in the rifle range to stopping bank robberies); Harrier Attack (only a working title for a game similar to MiG 29); Billy the Kid (fast draw shooting, partner); Jungle Warfare (another working title for a game similar to Green Beret); and a new version of Advanced Pinball Simulator rewritten by the Oliver Twins.

One interesting point about the Defender lightgun is its design. Sinclair specifically designed their gun to look futuristic, avoiding any complications when selling it in Germany — where such items, like computer games, are subject to stringent controls. However, Cheetah's version appears much more realistic, and seeing as they're also producing a C64 version, they may find some difficulty in selling it to the lucrative C64 market in West Germany.



Look out for a full review of the Cheetah Defender, and its games, next month...

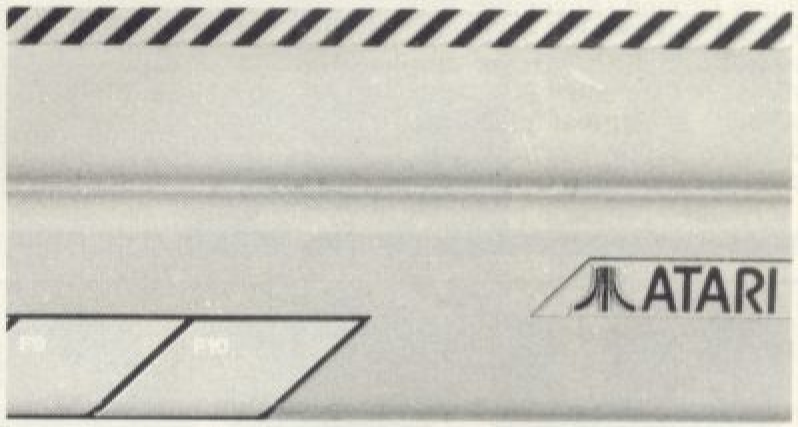
Silent STE

It's confirmed, the Atari STE does exist.

However, Atari aren't waving flags and blowing bugles to announce its arrival. During a recent trip around all the major software houses, Atari were conspicuous for their absence of furore. One software manager from a top software house commented: 'All they did was bring it in, show us what it does extra and go. No fuss or anything.'

So perhaps Atari are admitting defeat in the ST/Amiga war? Over 70 development machines have already gone out to software houses.

The new STE (to be launched at the PC Show in September), which will retail for the same price as the present ST (£399, but no software), features a new sound chip with stereo sound, and improved graphics features with 4096 colours, faster handling of scrolls and genlock capabilities.



Sneaking in so silently no-one may even notice: is it an old ST or a new STE?

The new STE is compatible with the old, and even looks the same. In fact an Atari spokesman informed TGM that they may even put the new STE in the recent Powerpack bundle without even telling anyone, thus starting the phasing out of the old model.

Like the Spectrum 128K, software houses have pledged their support for the new model, although games presently in production will not have enhancements.

Second sight, double vision

While people are going ga-ga at the Game Boy and prepare to go crazy over the Konix — not to mention the hand-held Atari, now christened the Lynx — distributors Palan, of East London, are set to blow the dust off the aged Coleco Vision console.

The CBS machine was released at the beginning of the decade, during the era of the Atari VCS and Intellivision, but failed to make an impact in the console market or slow the embryonic but fast-growing home computer industry.

With supplies of the Coleco available from abroad, particularly the Far East, Palan see a potential new market for the decidedly Seventies-looking machine. With a retail price tag of £50 in mind — a fifth of the original price — Palan are waiting for trade response before committing themselves to a probable September (re)launch.

The old, but classic and accurately converted, Donkey Kong is likely to be bundled with the Coleco and there are some 100 other cartridges readily available from various parts of the world.

It's a shame that Palan won't be dealing with Coleco peripherals (even going as far as blocking off the expansion port): for racing games, there exists a steering wheel and brake pedal, originally launched at the same time as the Coleco — the Konix console's ambitious control devices aren't as original as many people believe.

Though the Coleco Vision is undoubtedly a quality machine — it could give the 8-bit Sega and Nintendo a run for their money — there are too many new and more advanced consoles and computers on the market and in the pipeline. £50 is a nice price for the Coleco but this 1979/80 machine is unlikely to gain a stronger following than it did during its youth

Showdown

It's that time of the year. Usually there's only one computer show to be seen at; the Personal Computer Show at Earls Court. However, this year there's three dates for your diary.

Although criticised last year for lacking any decent launches — in both the leisure and business halls — the PC Show (September 27-October 1, Earls Court) is back with a bang, rumouring launches of the STE with a basketful of games releases (probably the same ones promised last year).



Another whopper show?

The Computer Shopper Show (November 24-26, Alexandra Palace) makes its debut this year. At first look it may seem like another Microfair or Atari Show, but a closer examination of who's exhibiting reveals a number of majors: Acorn, Amstrad, Commodore. They'll be a bevy of people to answer you queries, a programmers' challenge and loads of special offers on hardware and software (mostly consisting of 'serious' sort).

And, as if that's not enough show-ing off, there's the Third Alternative Micro Show and Electronics Fair based at Bingley Hall on Staffordshire Show Ground (November 11). Famed for covering almost every computer (except the Amiga, ST and PC), the AMSEF is a great place for meeting fellow owners and picking up the odd bargain.



This TV series is dead. It has ceased to be.

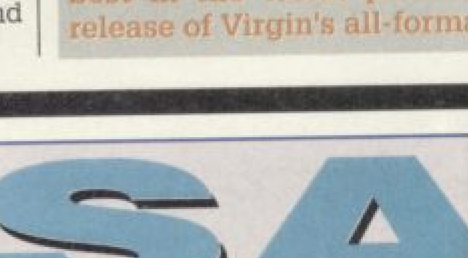
No, it's just sleeping, according to Virgin Mastertronic. The Monty Python team are back. Pictured, from left to right: John Cleese, Terry Gilliam, Terry Jones, Graham Chapman, Michael Palin and Eric Idle. The team who gave you six of the best in the worst possible taste are back on your screens next spring, with release of Virgin's all-formats computer version.

ACTIVE SALES

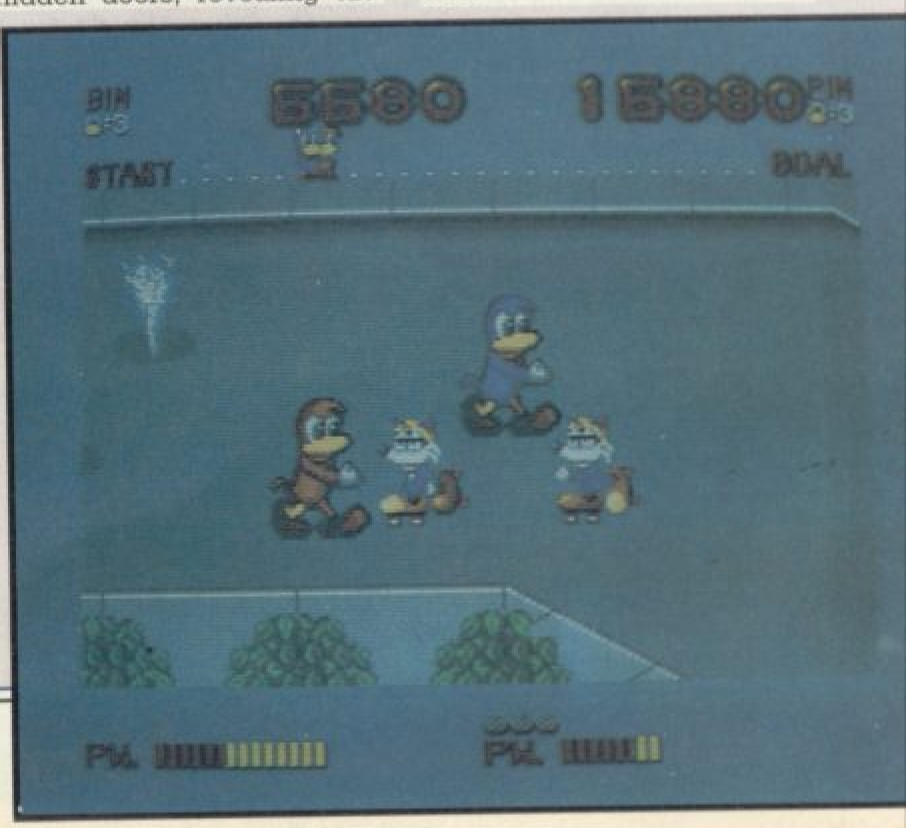
First there was Wonderboy (Activision chart hit of summer '87), then appeared Super Wonderboy, and finally Wonderboy 3: Monster Land. Next month sees the release of the second in the series, on all formats from Activision. A now-matured hero, Tom-Tom is once again called into action as the livelihood of Wonderland's inhabitants is threatened by a dastardly dragon.

In comic strip fashion you have four types of armour and shield, and another four types of boots. There are also many treasures to collect along the way, including: gauntlets, helmets, shields and amazing winged boots (up, up and away). As in its close relative Super Mario Bros, you'll also come upon hidden doors, revealing taverns, hospitals and even fortune tellers. (ST screen.)

They're mean, they're mad, they're Dynamite Dux. Anchacha the Great has captured Lucy, who else to call but her closest friends, Bin and Pin, that dashing duck duo.



Super Wonderboy (above) and Dynamite Dux (right) rampaging on the Atari ST



TALES FROM SIERRA

Here's a collection of the latest Sierra Online games, as seen in an exclusive preview to our American writer, Marshal M Rosenthal, who wrote more background information on them in last month's adventure section. (All photos on IBM PC, and by Marshal M Rosenthal.)

Hoyle's Book of Games

Hoyle's Book is a weird collection of eight wonderful table-top games. Keeping an eye on your opponents' antics is often as important as keeping an eye on your own cards (which are not as inanimate as they may seem!).

King Arthur and the Search for the Holy Grail

You quest, my son, is to find the fabled Holy Grail. To help (and hinder) you on your quest may I introduce you to Guinevere, Sir Lancelot, Merlin and your old friend Excalibur.

Designed by cartoon writers and animators, King Arthur is an animated adventure featuring arcade sequences. Pictured here is the sequence where you must do battle with the Black Knight.

Colonel's Bequest

Take parts of Mel Brooks and Agatha Christie and this is what you've got: a 1920s murder mystery set in the grounds of a large mansion. A new feature in Bequest is that everything happens in real-time — things happen regardless of whether you're there to watch them. Nimble feet are required!

Codename: Ice Man

As Johnny Westland, US Navy SEAL, you must take control of a submarine and rescue an American ambassador held hostage in North Africa. Animation is involving, featuring special windows that appear at the top of the screen adding extra information. There are three types of perspective: closeups, medium and far shots. Although mostly adventure and simulation, there are a few arcade sections, as shown here with the dice scene.

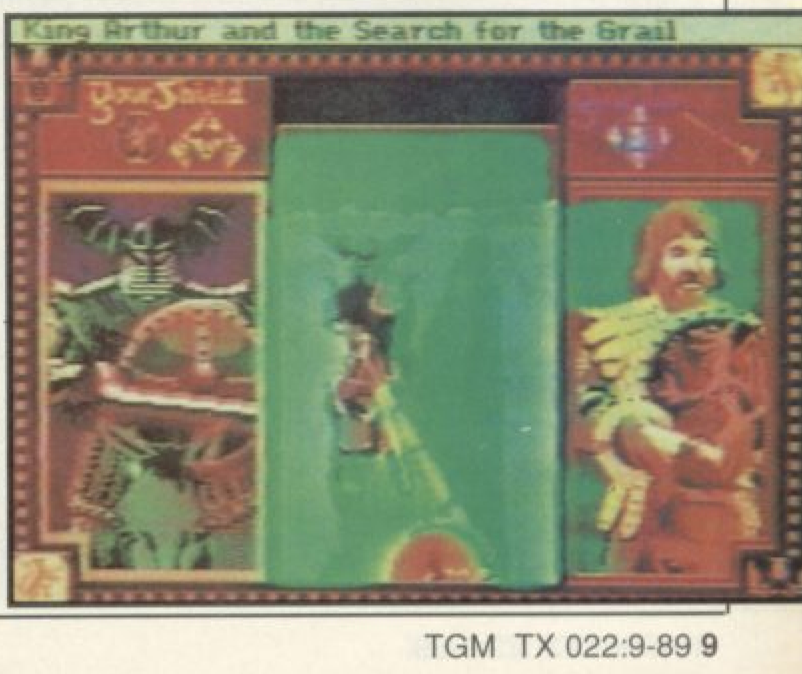








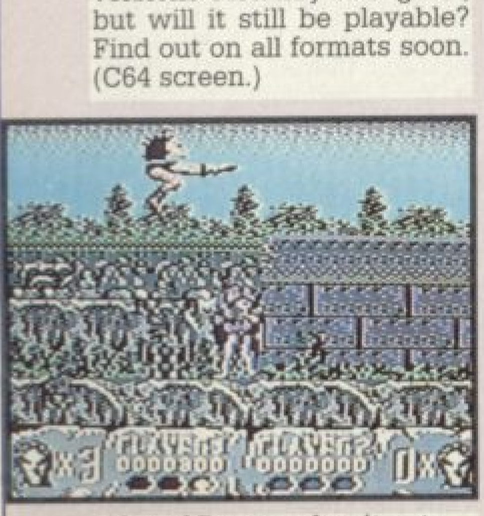
Sierra on lineup, top to bottom: gaming with Hoyle, The Colonel's Bequest, two from the Ice Man, and Arthur on the Grail (right and below)





Filled with comic elements and non-stop surprises, Dynamite Dux contains six levels, two bonus levels, and — Amiga and ST only — a two-player option for double the fun. Dux is to be available on all formats, and ready for release in September. (ST screen.)

Altered Beast has been 'kicking' around the arcades for over a year now, and it's about time we all saw a computer version. Activision have taken up the opportunity with open arms (and pockets). The graphics on all versions certainly look good, but will it still be playable? Find out on all formats soon. (C64 screen.)



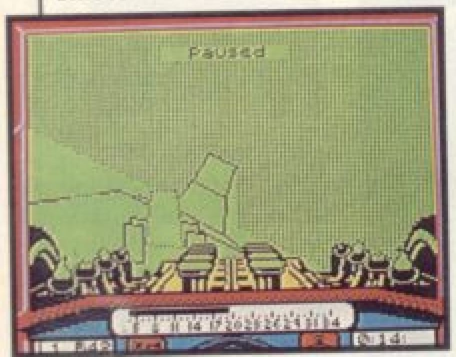
Altered Beast makes it onto the Commodore 64 (above)

PRESS ANY KEY

Tell me a story

After a lull of two or three months, while they sorted out what's going on what label, the Tetbury-based conglomerate, known as Firebird, Rainbird, MicroProse etc..., have unveiled their plans for tons of future releases.

The eagerly-awaited follow-up game from Geoff Crammond (author of Sentinel) has finally arrived, under the guise of Stunt Car Racer.



As a world-renowned racing driver you must steer your car through eight challenging tracks in each of four divisions. However, your car is one hot pile of metal and requires skill and restraint to guide it over bridges and jumps, and round obstacles. From the moment you're lowered by crane onto the track, you know that this is not just another simulation game.

Stunt Car Racer is for all you young trendies out there, so it'll be on the ever-so-cool MicroStyle label. All formats are expected in September, with ST and Amiga versions allowing you to connect two computers together for simultaneous play.

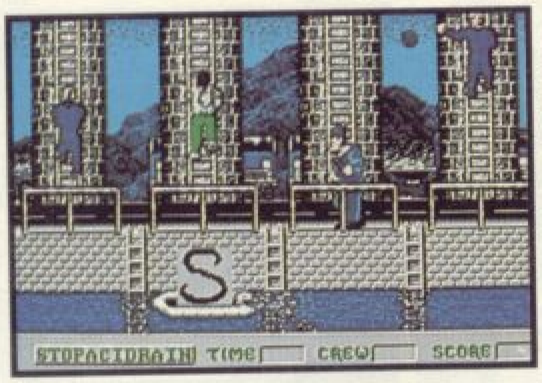
Originally titled Government Form Simulator, the arcade conversion of the flying shoot-'em-up, P-47, is



Top; Stunt Car Racer, above; conversion of arcade hit, P-47

almost complete. Pictured on the ST, is should be available on all formats soon.

From MicroProse, the company that brought you Gunship, Stealth Fighter and many many more war simulations comes — in conjunction



Above and below; truncheon-wielding action in Rainbow Warrior from MicroProse

with the global preservation organisation Greenpeace — Rainbow Warrior. Get past those truncheon-wielding flatfoots, stop those evil seal cullers and give a whole new meaning to the 'Save the universe' storyline. Definitely one of the most attractive games previewed this month, you can expect Rainbow Warrior in September on all formats. (ST pictured.)



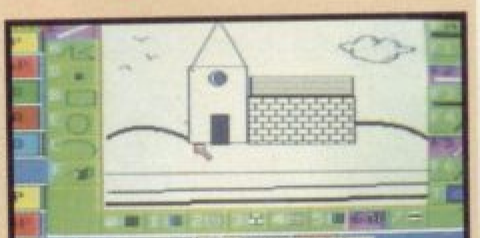
We all know that two-player programs add an extra dimension, so Xenophobe, with its split-screen play (first seen in Spy vs Spy's Simulvision), is eagerly-awaited here at TGM. All formats feature the eye-catching technique, as well as some Alien-type characters aboard your starship. (ST screen.)

Double trouble with Alien-style graphics as monsters come at you from all angles in the latest two-player game, Xenophobe



Every picture tells a story

You don't have to be an award-winning artist to play Domark's follow-up to the top-selling Trivial Pursuit, Pictionary. All that's needed is a quick hand and a vivid imagination. Flick through many drawing utilities and sketch out a rough design that will give your friends a clue to the word. It's a bit like charades with pictures.

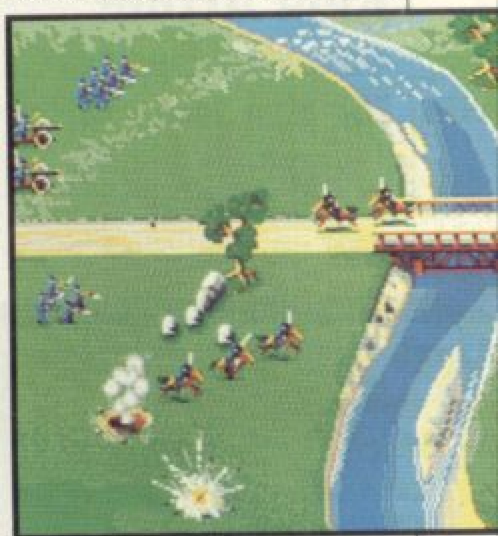


(Amiga screen. Graphics may alter.)

Info

Without one sighting of Patrick Swayze, Infogrames' next wargaming extravaganza is North and South — described by the French company as 'a game of strategy, tactics and arcade', with an emphasis on strategy. The story of the American Civil War of the 1860s, North and South allows you to play either side, against a computer or human opponent.

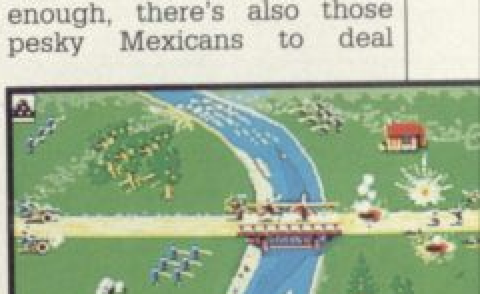
In order to recruit armies you must acquire taxes (in the form of gold) which are transported across America on trains. Of course, controlling a few railway stations will help your pursuit of said taxes. Get your hands on five



Top and above; all-American heroes apply to Infogrames' latest game, North and South

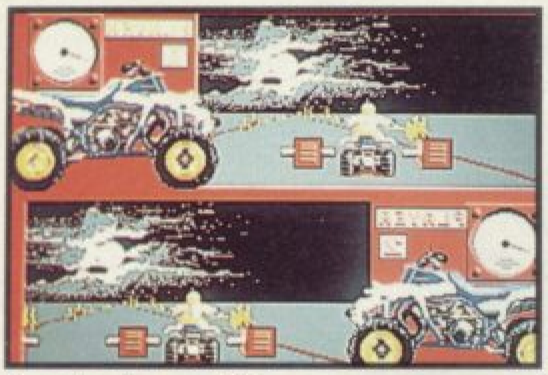
sacks of gold and a new army is yours, all ready and waiting to gain your victory.

Arcade elements rear their heads in the battle scenes where you take control three types sections of your army: artillery, cavalry and infantry. Obviously, certain sections are suited to certain movements. And if that's not enough, there's also those pesky Mexicans to deal



While the French celebrate their revo lution, Infogrames release North and South (Atari ST pictures)

games info

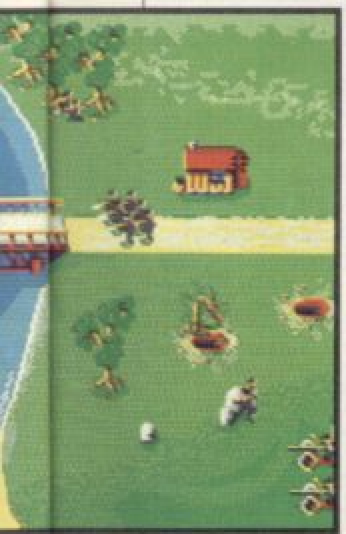


Running for your life ...

with...

Only on the ST, Amiga and PC, North and South should be available in October.

In Infogrames' Iron Trackers you're running for your life, literally! You are placed on Iron Island, where the master of the island's favourite sport is Man-hunting! However, the rewards are high, so — stricken with poverty and depression — you volunteer yourself. Before the contest you must equip yourself with certain attributes. Do you want strength or speed? And what sort of weapon d'you fancy?

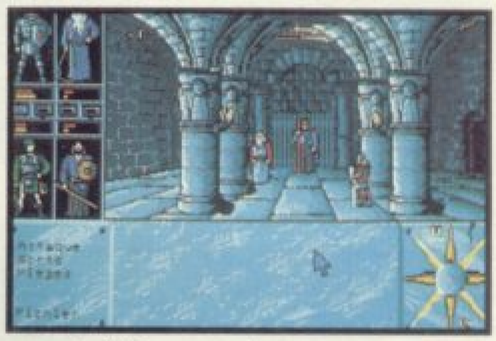


All you have to do is cross from one side of the island to the other — there are no rules! Along the track there are traders who will supply you with extra munitions for your chosen weapon. Filled with laughter and suspense, Iron Trackers is available on ST and Amiga in September. (ST screen.)

The year is 1953. You are at the forefront of a ground (and space) breaking exploration trip — at the controls of the rocket headed for the moon! Good luck, Tintin!

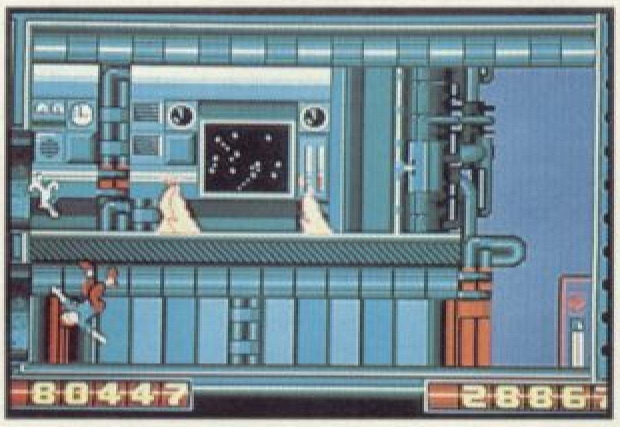
Before you even set down on the moon, you must pilot your way through meteor showers, take evasive action to thwart your competitors' plans to sabotage your mission, and successfully complete a complex entry and landing procedure. When on the moon, keep an eye on your faithful companions Snowy, Captain Haddock, Professor Calculus and Woolf, the engineer. The evil Colonel Boris will try to capture them all, sabotage the ship and prevent your return to earth.

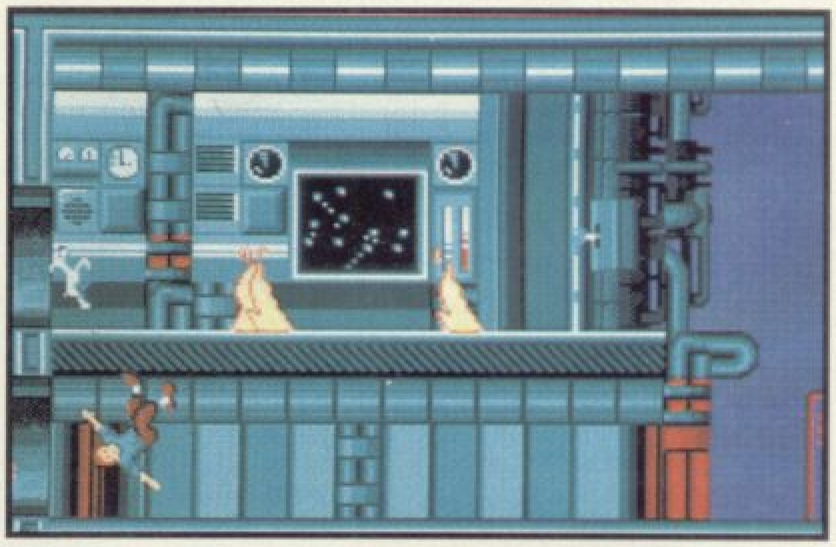
It's intergalactic action all the way. Tintin is available on all major formats this autumn.



(ST screen.)

Also new from Infogrames is their first ever roleplaying game. RPGs are even bigger in France than they are here, so expect Drakkhen to contain every feature imaginable. It's taken five of France's top programmers, artists and designers a whole year to develop, and contains a plethora of rooms, monsters and spells. Coming soon on the PC, Amiga and ST.





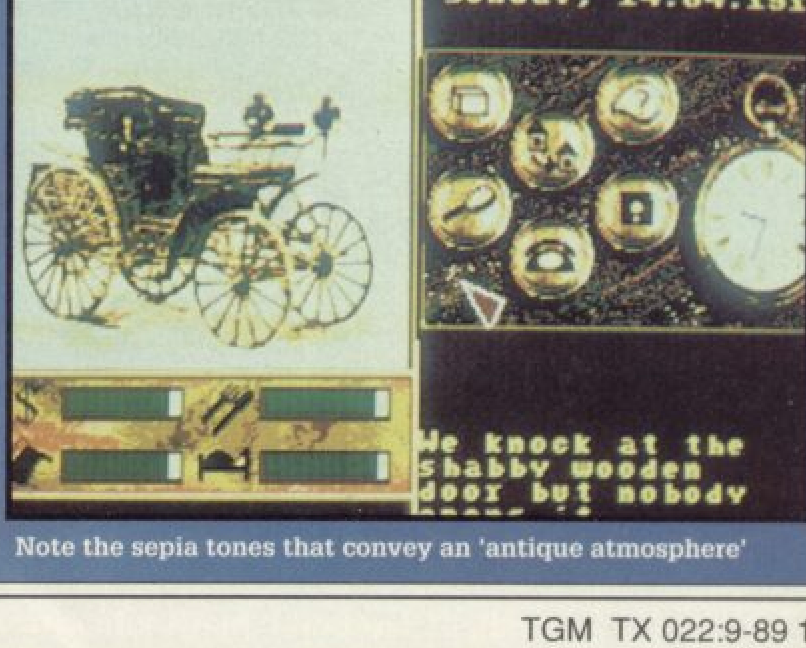
RPG action and outer space adventure with Drakkhen (top) and Tintin (above and right)

Tell 'em about the mummy

Rainbow Arts, producers of top-notch arcade games, are about to surprise everyone by releasing Mystery of the Mummy — an adventure! Detective skills are a necessity as you try to unravel the conundrum. Jump in your chauffeur-driven car (your employer's not poor!) and use it to travel to any of 186 location in Hamburg and question people. You've only five days to solve the mystery, and time is running out! The game contains over sixty original graphics drawn in charcoal and then digitised to computer, thus the strange sepia tones in the ST screen. Through these, Rainbow Arts feel they can convey the real antique atmosphere of 1912 Hamburg. Available on the C64, ST, Amiga and IBM PC... soon.



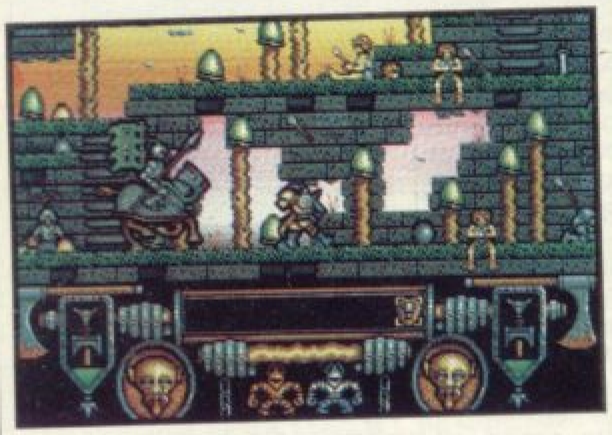


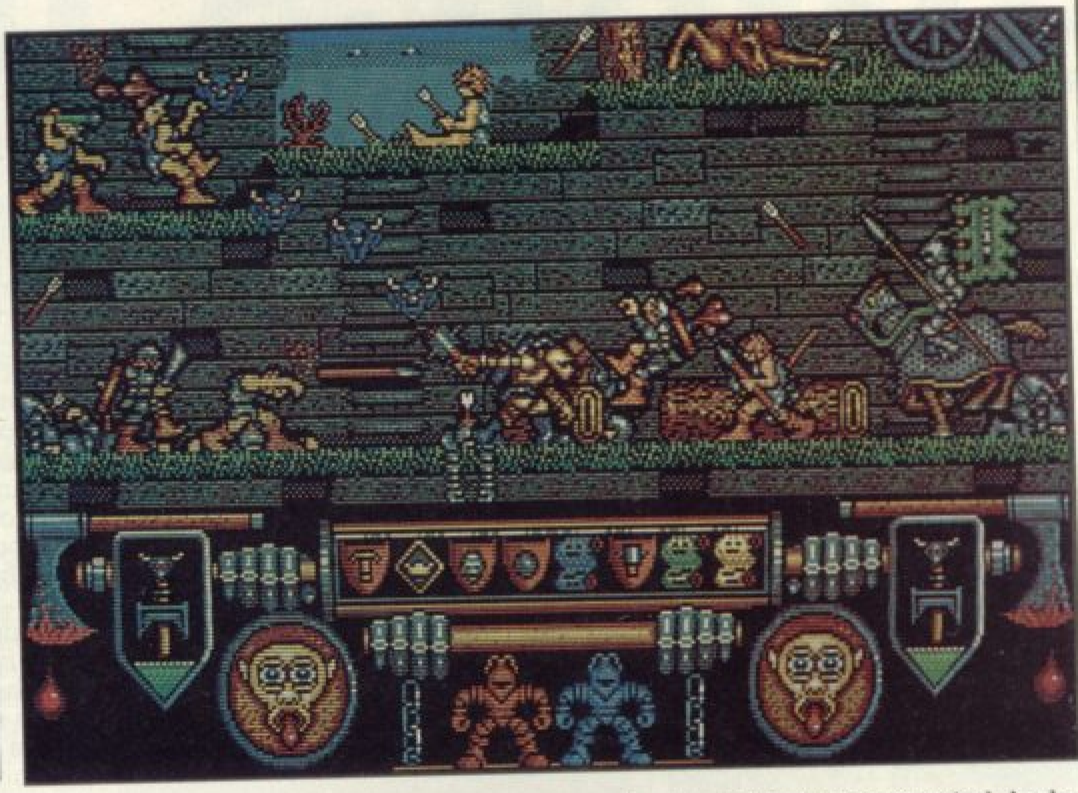


Note the sepia tones that convey an 'antique atmosphere'

Hewson onslaught







Hewson's latest 16-bit shocker, Onslaught, programmed by Chris Hinsley and Nigel Brownjohn (of Verminator and Custodian fame), is set in the days of knights and bloodthirsty warriors. As a peaceful sort of chap your task is to destroy the warring factions that are pulling the many kingdoms apart, and take control of all the land (meglomaniac).

The whole game is set on a campaign map with ten kingdoms (each with 256 locations), In true roleplaying fashion, travel over many types of terrains (some need a talisman), and encounter cults, cavalry, carpets and cannons.

There are a variety of 'undead' who must be treated with caution — especially the Dark Rider. And you can come up against four types of opponent in desperate mind duels. There's also the risk that a territory already governed by you might rebel.

Onslaught is a truly epic adventure (even allowing you to create and save your own kingdoms!). November release on Amiga and ST.

Aboard the Ocean liner

Looks a bit familiar, doesn't it? Well, it seems that even the great Ocean can't miss out on a good thing when it comes along. With Hawk, Bomber and more Falcon Mission Disks about to be launched, the flavour of the season is definitely flight.

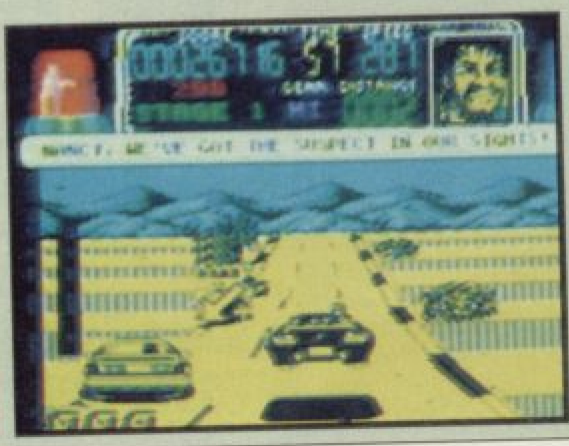
With most of the US Air Force planes already snapped up for simulation, Ocean have plumped for the futuristic F-29 Gruman prototype. Presently titled F-29 Retaliator, the game features a high proportion of strategy, as well as the usual dogfight sequences.

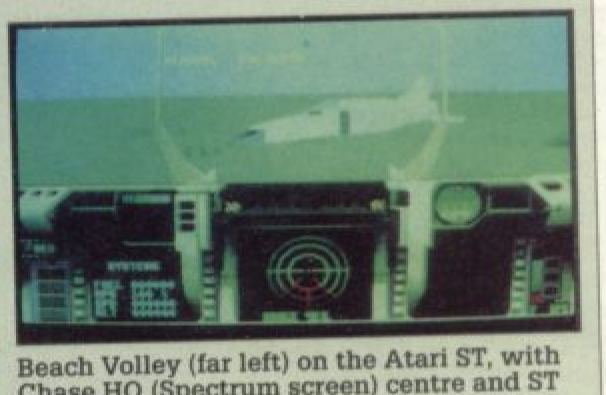
Programmed by Digital Images (in fact one of the programmers helped on the 16-bit skyward hit, Falcon), Retaliator is set for a 16-bit-only takeoff soon.

Ocean are hoping their latest Taito coin-op conversion will succeed Operation Wolf in being the year's Christmas number one. Programming on the Spectrum version of Chase HQ (pictured) is practically finished, with plenty of people helping out on the other versions. Although another track game, Ocean's ebullient Software Manager, Gary Bracey, was quick to point out that it's a vast improvement over the unsuccessful WEC Le Mans. Whereas WEC was like a drive through a ghost town, Gary assures us that they'll be no let up in Chase HQ. And by all accounts he's right, the Spectrum version we played was great fun, with all the characteristics of the arcade game.

Beach Volley isn't the first sports game to spring to mind when thinking of a sports simulation. However, due to its increasing popularity (mainly through Channel Four), Ocean have commissioned their overseas affiliate, Ocean France, to produce a beach volleyball game. With just two players on each side of the net, there's no time to eye-up the local talent (from 12 countries). Graphics are great, sound contains rock 'n' roll tunes and speech, and some hilarious inter-country scenes are thrown in for good measure. Expect Beach Volley on all formats in your shops very soon... (Amiga screen.)

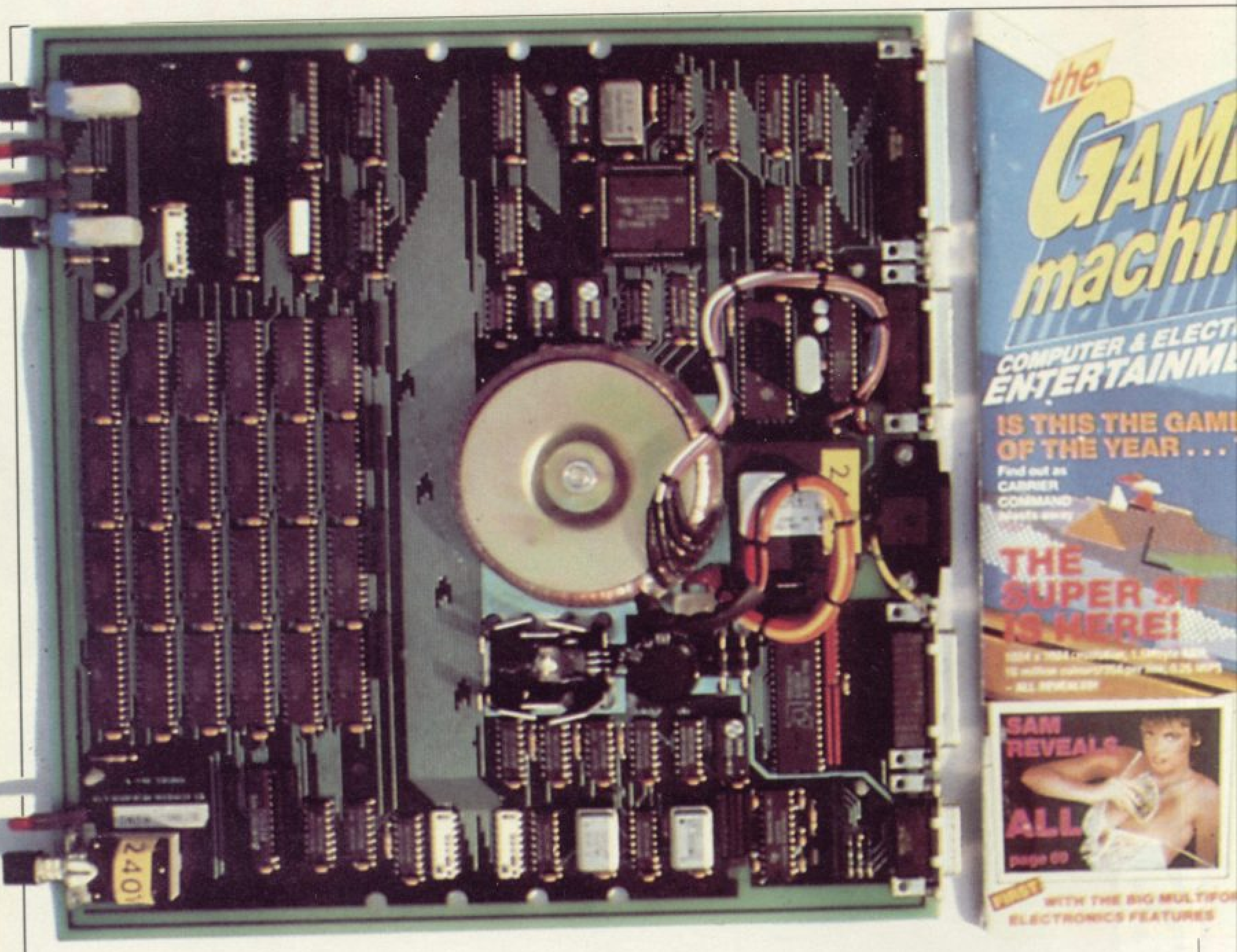






Beach Volley (far left) on the Atari ST, with Chase HQ (Spectrum screen) centre and ST Retaliator above


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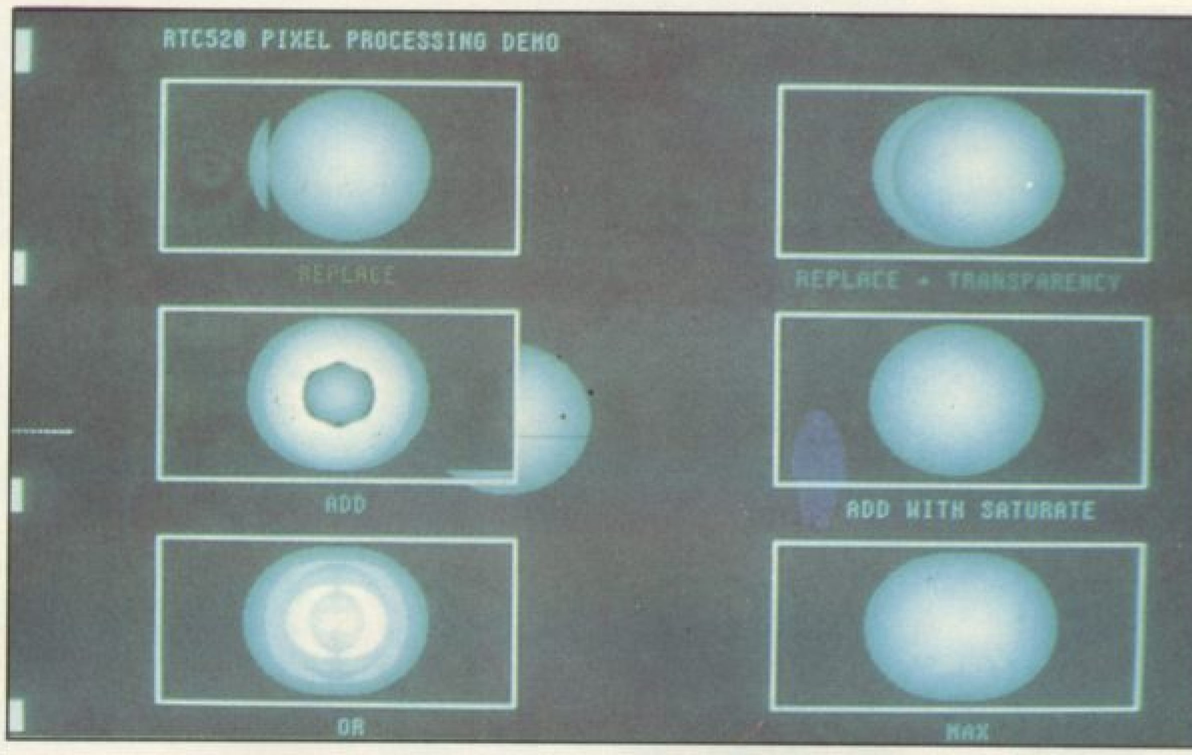
(c) 1989 Elmtech Research Productions Ltd ● Screenplay by Robin Candy
Cameraman Michael Parkinson ● Director Roger Kean

Parsec, *n., a unit of astronomical distance equal to the distance from earth at which stellar parallax would be one second of arc; equivalent to 3.262 light years. (From PARALLAX and SECOND.) Uses: Star Wars; Han Solo and the Millennium Falcon complete the Kessel Run in less than 12 parsecs.*

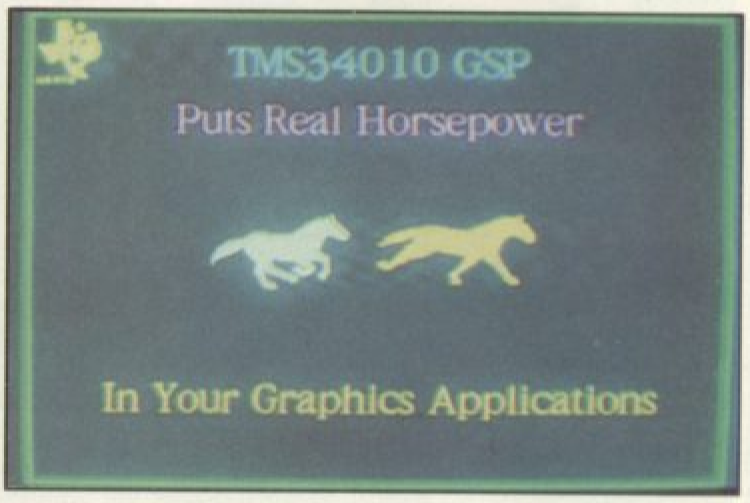
TGM first previewed the ParSec Graphic Interface way back in Issue 7. Since then we've heard relatively little from the designers at Elmtech Research in Birmingham. In fact the ParSec seemed destined to join the ranks of great machines that never were. However, the design has been finished, the casing picked, the programs perfected and Elmtech are ready to amaze the world all over again.

Elmtech are a four-way partnership between David Encill, Martin Lockhart, Ian Moore and Mike Holding. It was formed when Ian Moore approached David and Martin with an idea for a graphics board. David and Martin provided the financial backing and Ian designed the hardware. Software design has been handled by freelance programmers spread around the country, with the art program designed in West Germany. It is only recently that the whole team has got together in one place ready for the final push to launch the ParSec.





he Parsec Pixel Plus board, hardly larger than a copy of TGM (the issue in which we first broke the news), will fit inside a case making a handy monitor stand. Pixel processing is the name of the game (above, in a special demo which uses different commands), and SPEED! The horses in the demo (right) speed up fantastically while a magnifying glass (not seen in pause mode) floats smoothly over them. Below: a Da Vinci PC port-across showing block commands and the ability of pixel processing to switch from positive to negative image. All the pictures are from facilities included in the Parsec free package.







If you previously missed all the hoo-ha about the ParSec Graphic Interface, here's a quick summary.

The unit is designed primarily for graphics use, being capable of producing very high resolutions with many colours. But it isn't just a graphics board, rather a computer with its own onboard 32-bit processor that happens to be extremely good at graphics. The present versions plug into the ST and use it as a host computer. The ST's mouse and keyboard are used as input devices, information is saved using the ST's built-in disk drive and sometimes the ST's memory is used to provide additional RAM, while the ParSec performs all the difficult work. It was originally planned for the ST merely because the ST had the larger market, particularly in Germany where the majority of STs are used for business applications. However, versions are now also planned for the Amiga and PC.

The ParSec was already in prototype form 12 months ago. So what then caused the year-long delay? David Encill: 'Essentially it was the world shortage of Video RAM chips. Prices rose by as much as four times. The ParSec uses 24 VRAM chips and we would have had to pass this increase onto the end user. So we decided to delay the release and use the time to fine tune the hardware. As it is we've had to increase the price only slightly.'

The basic unit, the ParSec 4768, costs £918.85 (and not £458.85 as reported in last TGM). This unit boasts a resolution of 1024x768, a colour palette of 4096 colours, 756K VRAM and speeds of 6.25 MIPS.

Bundled with the hardware is Da Vinci, an art package. This includes most of the functions featured in popular art programs: zoom modes, block commands, adjustable airbrushes, outlined and filled geometric shapes. However, one completely new feature is a little menu entitled Pixel Processing. Although not too sure how it works themselves, Elmtech were quick to show what it can produce. Basically, the program takes two numbers, puts them through a choice of logic gates (logical operaters are basic binary calculators) to produce another number (converted to a colour). Using this option you can create many colours with one stroke of the paint

PRESS ANY KEY

TECHNICOLOR



brush, create weird animation effects, and even give the impression of a negative when using a black and white pictures. (See photographs.)

Once you've bought your 4768 you can increase its graphics capabilities to phenomenal levels with the 8768 expansion board (£458.85). The palette is increased to a mindblowing 16,777,216 colours with a maximum of 196,608 colours onscreen at any time —that's an incredible 256 different colours per line! Memory can also be increased to 4Mb with optional RAM cards.

The hardware specifications are impressive enough but what will the ParSec actually be able to do. In terms of graphics, just about anything you want —and like its name says, FAST! Upgrades are planned for the Da Vinci art package. But it is the professional paint package (due for release sometime in October) which should really get the graphic artists slavering. The programmers have been working on the package for a few years now and have just been waiting for the right hardware to arrive. The program is not only capable of producing the ParSec's 16 million colours, but also simulating a variety of canvas textures and paint techniques, like water colours and chalks. This is not a simple pixel positioning program. Anyone who has painted with watercolours will know that the appearance of the paint on the canvas is heavily influenced by the texture of canvas. Similarly with chalks, and the amount of pressure used. This could well be the first 'true' art program —designed for professional artists rather than computer users who can draw. The package will be modular with additional programs available for animation and ray tracing.

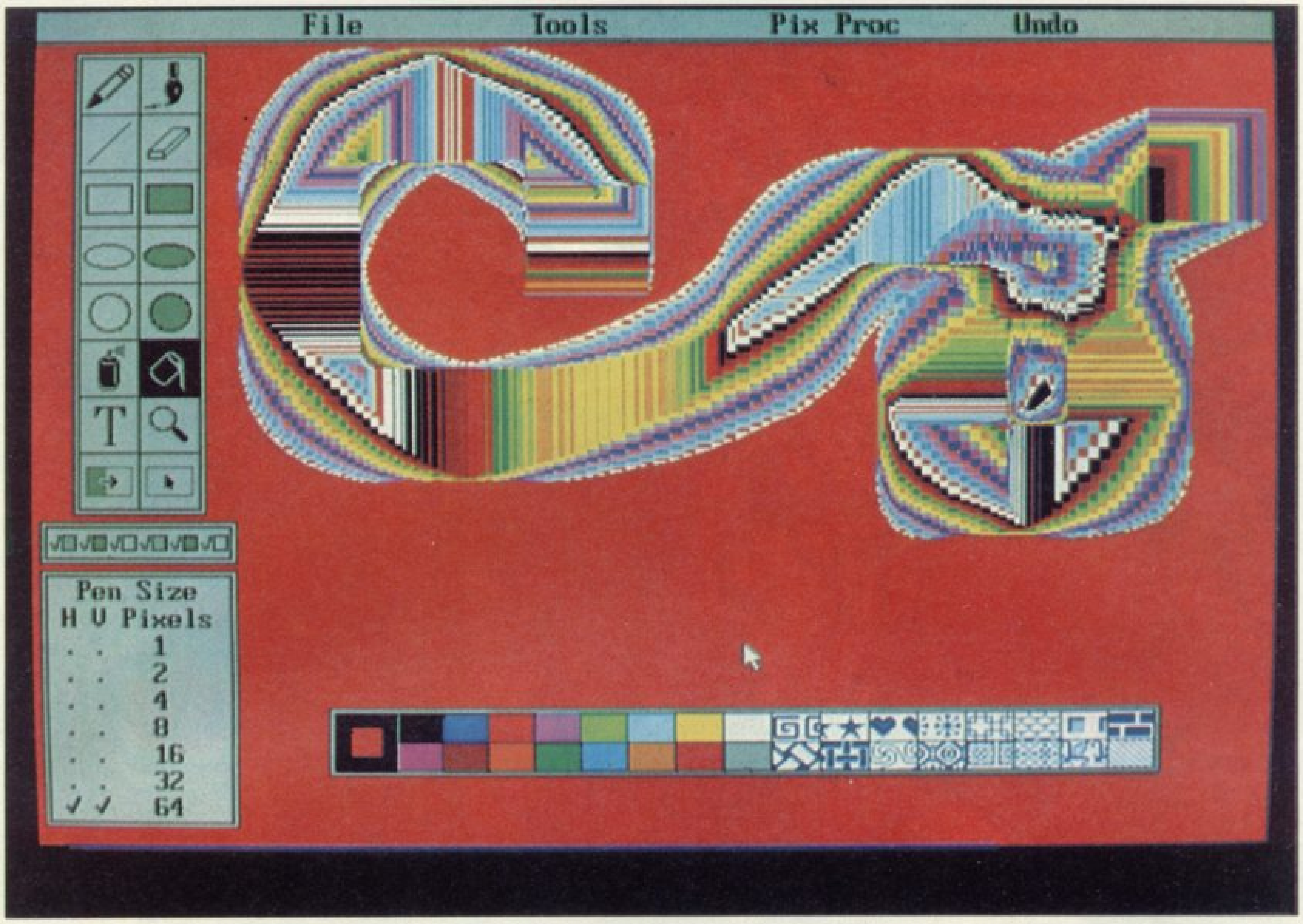
Ray tracing is a technique used to generate realistic shadows and shading. The user specifies the light source(s) and the computer does the rest for you. Currently such packages have been rather limited. Some only allow you to construct pictures using geometric shapes, while others take a long time calculating the ray trace (up to half an hour!). The ParSec will be able to calculate ray traces as you draw!

Rather than develop a wide range of software themselves, Elmtech have included a GEM driver with the ST version of the ParSec. This allows any programs which run under a GEM-based environment to work in conjunction with the ParSec. The benefits are obvious. For instance, if you already own a good GEM DTP package the ParSec will enhance its performance with increased resolution, colour palette and speed. Amiga and PC versions of the ParSec should also be compatible with a number of existing applications packages.

Genlock and digitiser interfaces are planned for the beginning of next year. Just a quick look at the TGM Guide to Digitisers (Issue 21/22) shows that the Amiga is already capable of digitising to high standards. Imagine a full-colour digitised picture on the ParSec at a resolution of 1024x768 —it will be almost impossible to tell which is the photograph and which is the digitised picture. Couple the graphics capabilities with a genlock interface and you could be producing broadcast quality titles and animation at a fraction of the cost. In fact, video production companies have already shown great interest in Elmtech's new baby.

The ParSec is clearly aimed at the specialist graphics market. The cost of the top-of-the-range system may seem expensive (and bear in mind you need a non-interlaced monitor with a minimum resolution of 640x480) but it seriously under-

All the pictures on these pages were taken on an Atari ST using the lowest Parsec resolution mode: 640x480



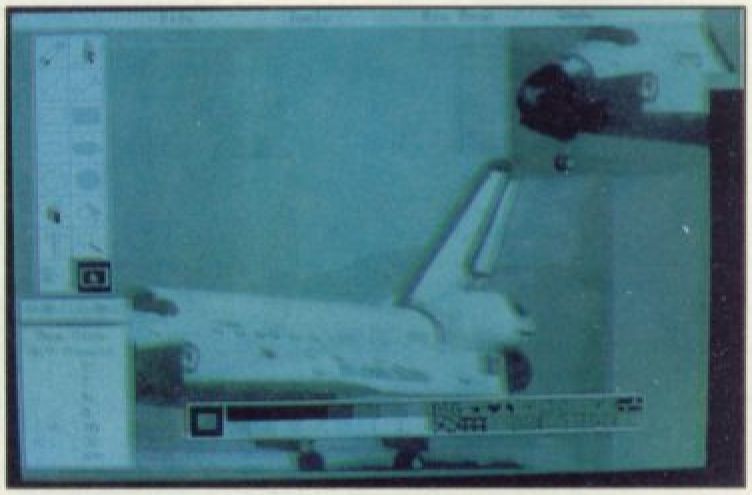
A standard port-across from the PC, the girl in the top left picture hardly fills the screen, and so uses even less of the lowest resolution. Above is a pixel processing demo showing what can be done with just one brush and the right commands! Showing off, Robin Candy did the picture below: He drew the right-hand half then used pixel process commands (highlighted) to convert the colours in the left-hand half of the face. It may not look like much, but it represents staggering paint power.

cuts the £100,000 graphic workstations which perform similar functions. Anyone involved in any aspect of design, from textiles to architecture, will find the ParSec an invaluable, and very cheap, tool.

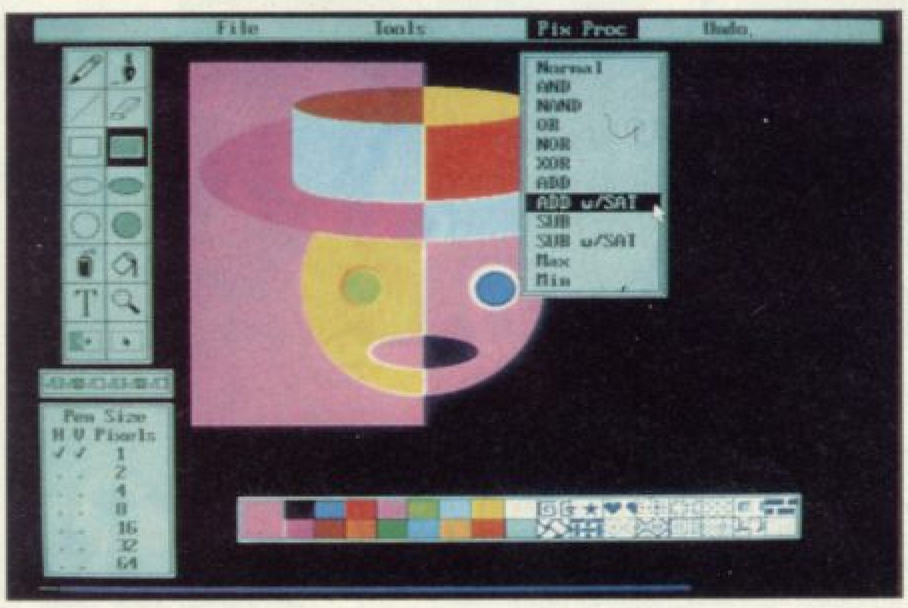
Of course the potential for games software is enormous. Elmtech have already been approached by several well-known software houses. A Barbarian-style game is already in the pipeline —now that could be the first computer game that really does deserve an 18 certificate!

Imtech Research Ltd:
Witherford Way, Selly Oak, Birmingham B29 4AX. Tel: (021) 472 5719.

■ **TGM LAB REPORT** soon...



Above: another PC port-across, showing how the block command (highlighted) has removed the shuttle's nose, and (below) the rotate command has the vehicle blasting off sideways on apeculiar heading for outer space.











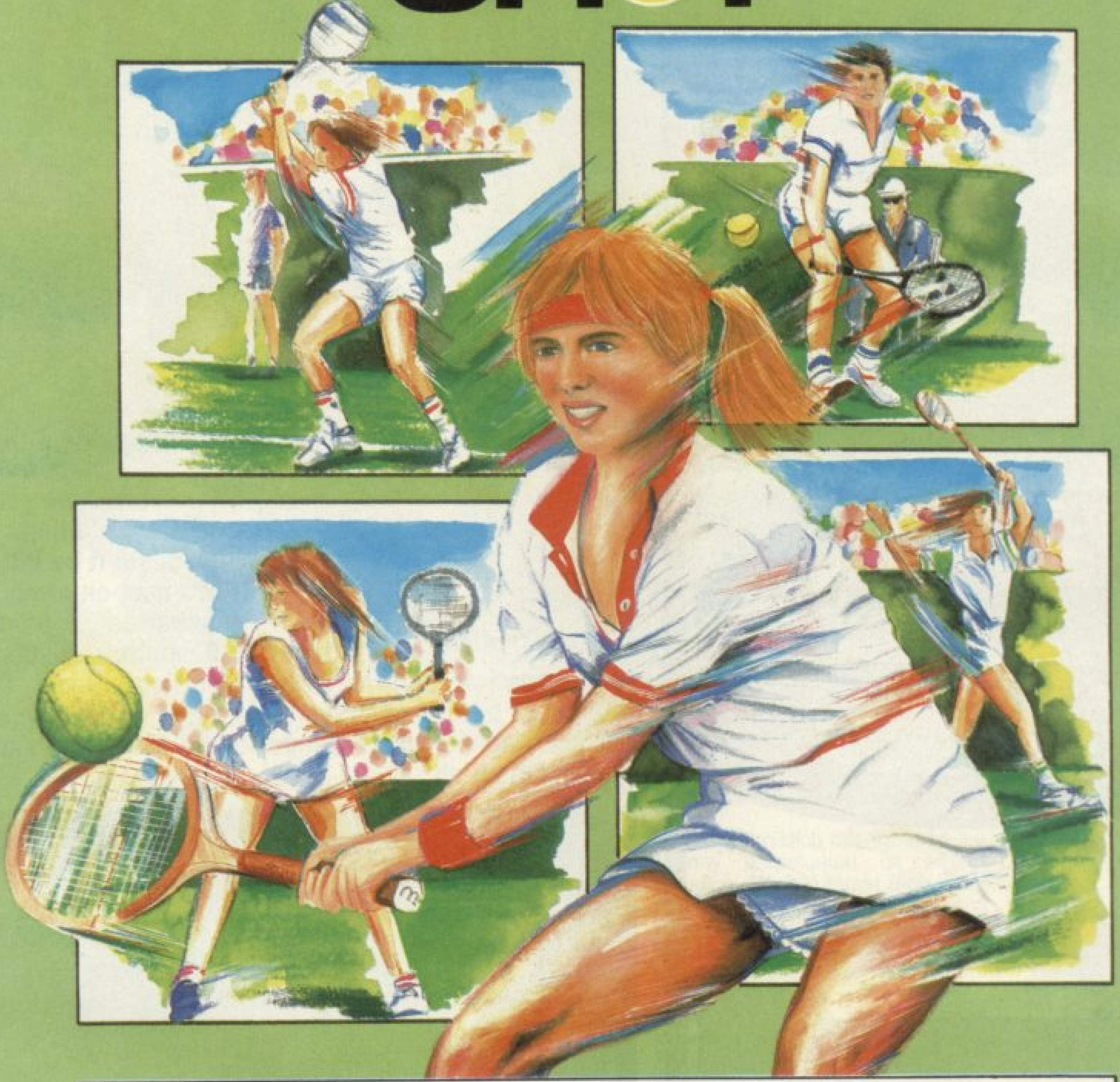
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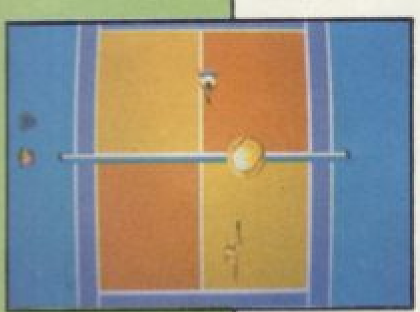
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Screenshots from Atari ST version

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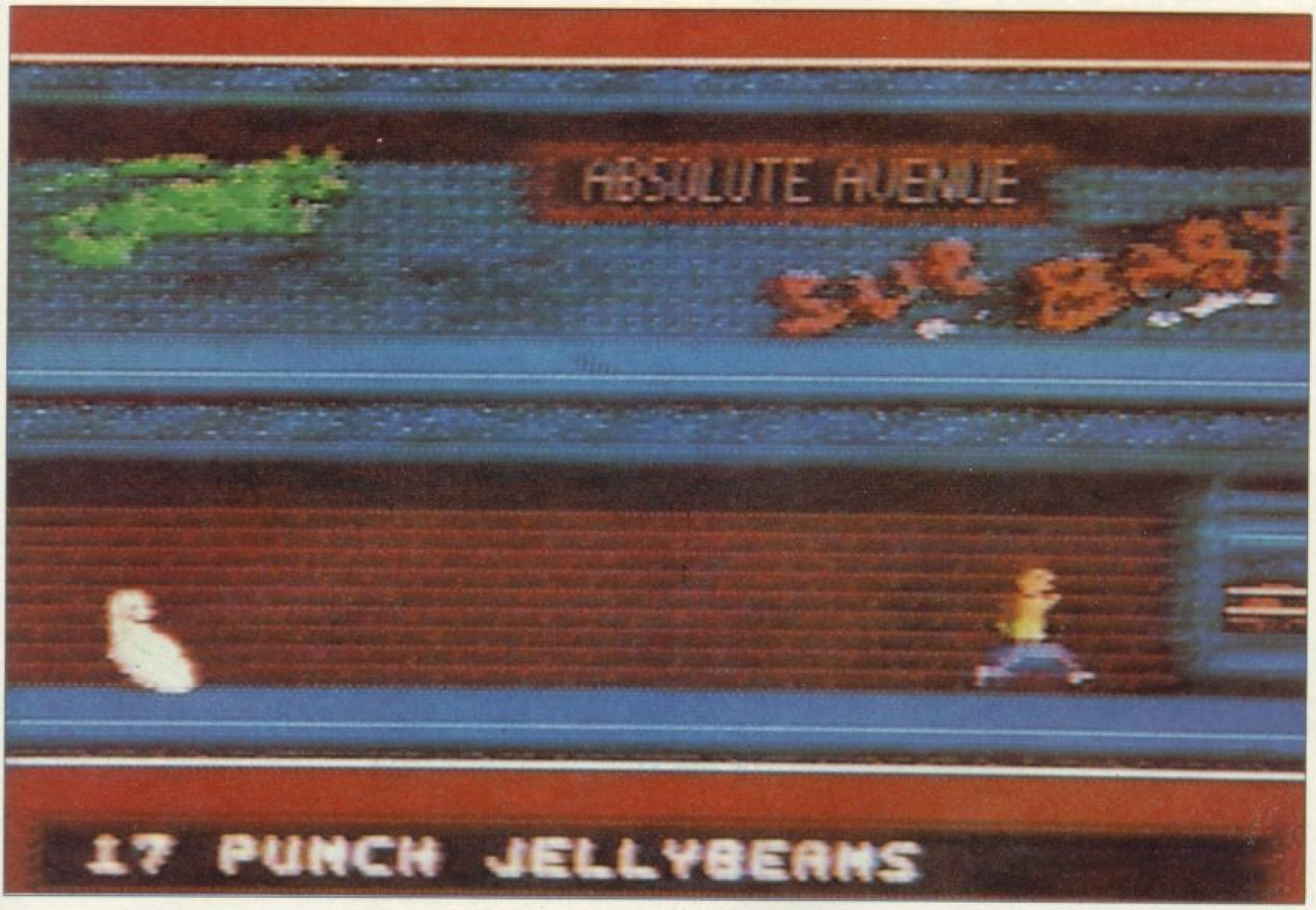


DAVID CRANE

One Man & his BLOB

Tall buildings, crowds of people, strange aliens — where else could it be but New York. TGM's man-on-a-mission, and Manhattan resident, Marshal M Rosenthal, jumped on his pogostick and met the illustrious David Crane (author of Little Computer People and Ghostbusters) to ask him, among other things, about his latest game A Boy and his Blob.





Strange things and New York seem to go hand in hand. The movie *Ghostbusters* could only have taken place in New York City, and even *Ghostbusters II* continues this fact. New Yorkers EXPECT the weird, the uncommonplace — and tend to ignore it. (You might expect people on 5th Avenue to stop and gawk when a mono cyclist emerges on his wheel from within a revolving door of a busy skyscraper — but not here.)

Considering how strange things in general have gotten (when was the last time you took a really GOOD look around), it's entirely appropriate for New York to be the setting for David Crane's return to producing video games.

Game designers may be proliferating now — with software houses producing dozens of games every month. However, there was a time when the video craze was in its infancy — when waiting for one game cartridge or disk to appear created enormous anticipation (Asteroids was being advertised in New York for two months before it made its Atari VCS2600 appearance!). So it's time for a short video history lesson for those who don't know or remember.

Atari started it all in late 1979. They did well, after all they had the field entirely to themselves — no third parties existed. A group of game designers left the company to 'roll their own' as it were, and the result was Activision.

Crane was one of the shining lights of Activision back when *Pong* was still considered state-of-the-art (he started at Atari before going on to be one of Activision's founders). Crane's games included *Laser Blast, Pitfall, Pitfall 2* (an animated television series came out of this), *Decathlon* (the first multi-event game cart) and *Little Computer People*, among others. Others being Ghostbusters, one of the most popular and best-selling computer games ever (reputedly selling over 250,000) — featuring that great opening screen with the bouncing ball as the theme went by.

Then, the dark forces conspired, the planets moved out of line... well, actually Crane just plain decided to get out of the business for a bit — this was in 1987 — to work on other projects (which he still won't talk about). But now he's returned, and through Absolute Entertainment, he's brought his know-how and expertise to bear in *A Boy and his Blob.*

Before we get Crane to answer a few questions, let's take a look at *A Boy and his Blob* (and you ASK him very politely since he stands something like seven feet tall, and with his red beard looks something like a Viking warrior who forgot to bring his sword to work that day). The packaging tells the story of how a young Blob has escaped the tyranny perpetuated on all of Blobolonia by the Great Blob King. Arriving on Earth, he befriends a young boy, who agrees to help. The boy must somehow attain the vital component missing from Blobolonia — Vitamens.

Besides this task, they both must somehow find a way to reach Blobolonia. This requires the two to search for a way into Outer Space. Which means penetrating the most secret levels and layers of New York, and Earth.

Fortunately the Blob can help. Bouncing along behind the boy, the Blob isn't exactly a fighter. But he has the ability to change shape, and become a variety of useful tools and devices. This doesn't happen as a gift however. It's necessary to supply the Blob with the appropriate foodstuff that will cause the change. And to know what that food will do, and what the Blob will change into.

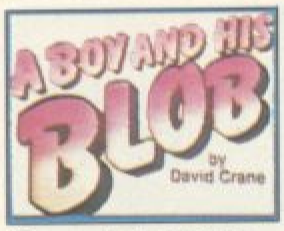
Fortunately again, the boy has a knapsack full of jellybeans, the manna of Blobolonians. Tossing one down the Blob's throat enacts the change, with different flavours doing different things. So you see that there's a lot to do. You must find jellybeans to perform special tasks, discover what those tasks are and how to put them into effect when the Blob changes. Plus finding Vitamens to store for later. All the while the team are penetrating

Photographs by Marshal M Rosenthal

"It's entirely appropriate for New York to be the setting for David Crane's return to video games"

Digitised pictures of New York's skyline add atmosphere to *A Boy and his Blob*, while below the surface, graffiti enlivens the subway stations (above) — all the work of veteran programmer David Crane (left), a 'Viking warrior who forgot to bring his sword to work that day'.

PRESS ANY KEY



'Somewhat' reminiscent of an Indiana Jones movie poster, and the opening bars of Blob's music sound awfully familiar...

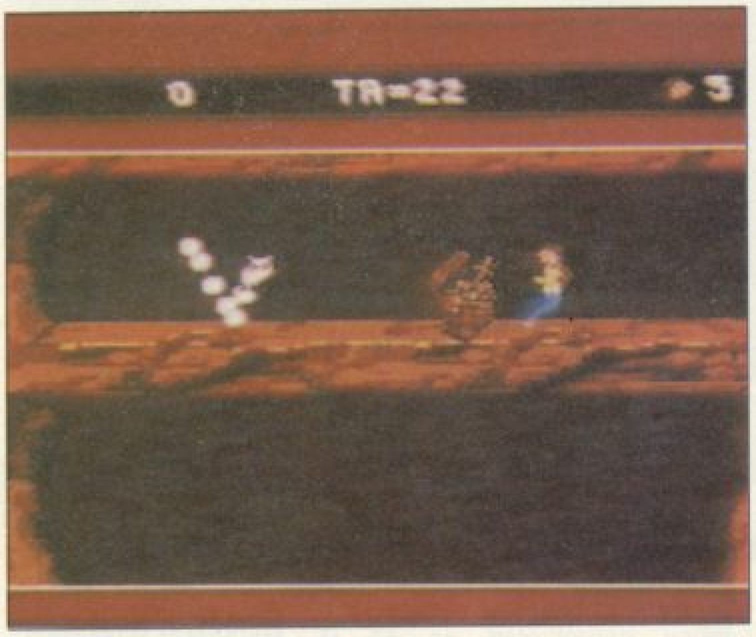
Below: two more Nintendo screens — how long will it be before we see the conversions?

strange and unknown areas; the New York sewers, the underground caverns; and somehow find a way to leave all this behind and get to Blobolonia. All happening in a game that combines arcade action, adventure and strategy.

Blobbing along

Now we turn to David Crane to find out a bit more about the mechanics of the game — and maybe a little also on how to win.

'One of the first things to notice,' begins Crane, 'is that there are digitised pictures of New York being used. This helps to create a realistic feeling — you're not looking at artwork; it's really screens of the New York skyline. The same





goes for the graffiti and posters on the subway system — it all lends to more realism and greater adventure.' Crane points out that you will be running all over the place, and getting into all kinds of trouble. 'But that's where your friend the Blob comes in,' he notes. 'The Blob is faithful — he's always behind you, waiting to help.' And help he does. The blob has the same kind of big warm eyes as a friendly puppy, and is just as loyal — following behind you no matter where you head.

The Nintendo joypad gets a heavy dose of use here. Crane continues: 'We've learned that tossing a jellybean down the Blob's mouth does the trick — but the bean doesn't just automatically land where you want it to go, you have to be close enough to do it right. There's also times where the Blob isn't right behind you, because you're somewhere special or up in the air. So keep in mind that you must learn to control your character through a combination of the joypad and firing button _ and that there are lessons to learn as you become more aware of just what happens and when.'

'It's also important to keep track of the Blob, since he can't always run as fast as you do and sometimes is a few screens behind [screens appear in whole when you exit the sides or top].'

'It's important to remember that the purpose is fun,' notes Crane. 'Your character can get hurt and will have to be replaced by another life, but there's only danger to overcome — no extreme violence like in a karate game.' Here Crane uses mnemonics for the jelly beans. Without giving too mush away — a Vanilla bean = Umbrella. And part of the fun is watching the Blob go through his change — his big fat body shrinking into itself before becoming something unusual, like a trampoline or ladder.

This information is echoed on the lower screen, while at the top another line displays information as to the number of treasures found. 'We hadn't mentioned that yet,' says Crane. 'Treasures are important, although they are difficult to find and acquire — I guess because they tend to be in remote places or guarded by strange things. Of course these 'things' are of Earth, and not half so strange as what's going on in Blobolonia.'

Crane has added other innovative features to pump up the enjoyment; one being Point of View. He explains: 'Like in a movie, the picture follows the boy around. However, when he does something which goes into another screen (like toss a jellybean off a cliff), the camera will follow this action. It's like in a movie where things are going on all around — it's not as much fun to be limited to one view of one character all the time. Point of View makes it possible to 'peek' into unknown areas without having to take a risk.'

Crane notes that this function has been made intelligent — it won't happen in the midst of any sequence where it could prove fatal to lose sight of the boy you're controlling. Speaking of scenes, there are hundreds of screens in the game, plus hidden ones that can only be found by investigation and perhaps a bit of luck. This is one thing that helps to keep the game fresh and replayable once you've managed to reach Blobolonia and defeat the king — though it is much more reasonable to use the word IF here.

'About doing that,' says Crane, 'that's where the Vitamens come in handy. Once you get to the Blob's planet, you'll be using them in a special gun to defeat the many foes that appear (guess where the gun comes from?). Plan to take on evil Marshmellows, exploding Cherry Bombs, mad Popcorn, a whole gamut of violent foodstuffs. Plus some decidedly unwholesome Chomping Sweet Tooth Monsters!'

Try and try again

Crane doesn't need to mention what is evident onscreen — that fast animation was given a priority. The Boy even skids when he stops abruptly. The Blob, on the other hand, has a steady plodding effect that is reminiscent of a bowl of jelly being shaken (should the jelly ever decide to jump out of the bowl and take off). His eyes blink occasionally, for a definitely comic look, and get a load of how he compacts after swallowing a jellybean. The screens are bright and colourful (except in those areas where they are purposefully dark and dingy), whip by quickly, almost too quickly at points where a safe and judicious look is more appropriate.

Any hints for winning? 'Just try hard,' smiles Crane. 'There's a lot of things to do, and it requires lots of skills; reflexes, quick decisions, a fast trigger finger, and plenty of thinking — that can be a lot tougher than any arcade sequence. Just don't give up when something tough comes along.' Thanks loads, David. We were were hoping for a secret level password, or sequence of actions that would turn us invulnerable to those blessed Cherry Bombs!

Crane has designed *A Boy and his Blob* initially for the Nintendo system. Asked why, he replies: 'I've designed on many systems, from the Atari VCS2600 to Commodore 64, to Amiga and ST — each has its own characteristics to work with. This is where we wanted to begin our focus — due to the high demand for game cartridges, and the huge number of people using the console.' Crane remarks that it took quite a bit to get the program to work the way he wanted on the Nintendo system. 'To accomplish what we wanted entailed our creating a new programming environment from scratch,' he says.

Crane's designs always exhibit the sense of humour and fun that should always be a part of any video game. You may notice that the graphic colour of the title is 'somewhat' reminiscent of an Indiana Jones movie poster, and the first couple of opening bars of music for *Blob* sound awfully familiar. *Blob* is a two-megabit game, and will be available for Christmas. So start practising your jellybean tossing now.

"Just don't give up when something touch comes along..."



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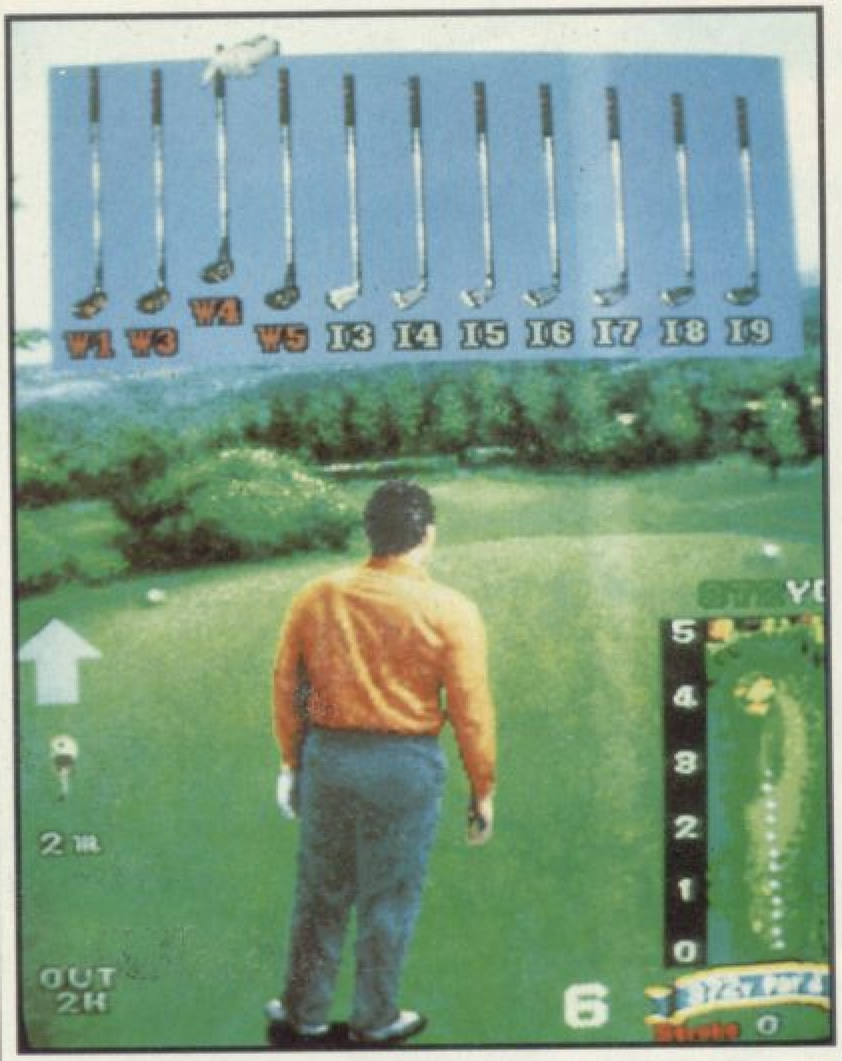
NEC Corporation, NEC Home Electronics Ltd, and NEC (UK) Ltd (collectively 'NEC' hereinafter) have recently become aware that the PC ENGINE is being offered for sale in the United Kingdom.

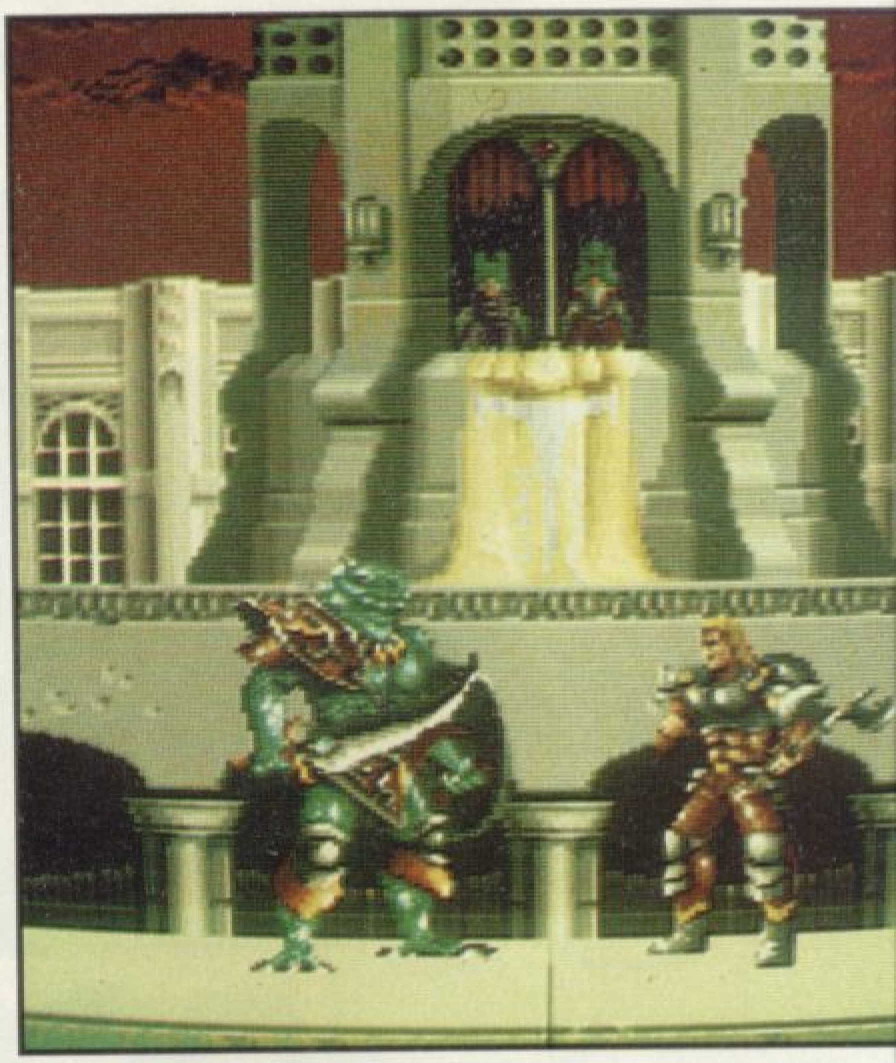
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CONFRONTATION: COIN-OP

Mark Caswell checks out four new arcade machines and looks ahead to the autumn and Christmas licensed coin-op conversions from the top software houses

US CLASSIC

Think you could beat the likes of Lee Travino, Gary Player and ol' Sevvy? Time, then, to have a bash with *US Classic.* After inputting your name, you're taken to the tee where a tall dark haired chap in golfing clobber awaits for your commands.

The selection of available clubs is shown in a window, and it helps to have some idea which club to choose — as golfers know, the length of the hole determines the choice. Choose wrongly and you might end up in the rough or a bunker (or 'sand trap' as Americans know them).

The game's played with a single ball controller. Whizz this as fast as possible in the desired direction you want the golfer to whack the ball, and off it goes through the air with the greatest of ease onto the fairway (or bunker...).

Each time a shot is taken the clubs appear and another should be selected appropriate to your position on the fairway, rough or green. *US Classic* is definitely one for the golfing fan and all it lacks is ninteenth hole.

FIGHTING FANTASY

Once a year the top warriors on the planet visit the Hippodrome (no not Peter Stringfellow's joint) to battle for fame, glory and lotsadosh. You're a tall healthy young fella with a strong right sword arm, so whay not have a go and take a bash at the title.

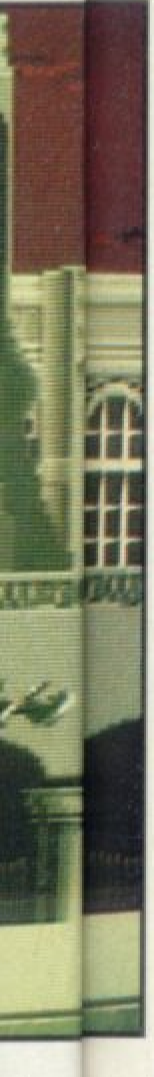
After the very nice title screen which explains just what the heck is going on, there's a choice of three opponents to fight: a skeletal creature, a lizard and a nasty snake woman with a decidedly dangerous tail. As soon as you've picked which one of these beauties you reckon you can beat, it's into the arena to kick hell out of one another. I was a little disappointed to find that the character movements are limited to slashes of the sword and jumping — it limits your chances of survival because the other guy often has something extra to ensure his. The lizard has a shield, the skeleton can fly and the snake's tail crushes you to death at the slightest chance (which produces gushes of blood from your character's mouth...nice).

But when you win a round your character raises hs sword in the air and a large victory message blazes across the screen. It's now up to you to decide how best to spend your hard earned wages, you could buy a new weapon (a sword, mace or battle axe), armour or a healing potion. Whatever, you only have a few seconds to decide which, then it's into the ring with the next nasty. Overall *Fighting Fantasy* is an average bash-'em-up marred slightly by its lack of options. Worth a few ten pees though.

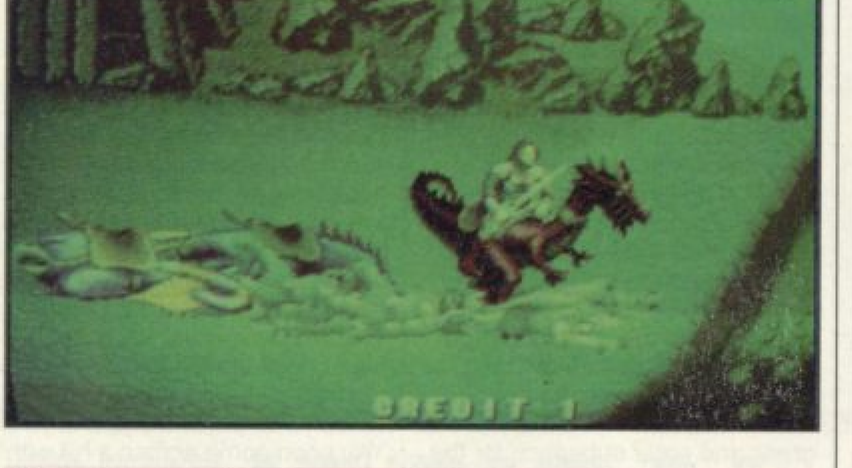
CRACKDOWN

At the start of the 21st century a group of genetic warriors were created, led by an evil alien who wanted to destroy the world. Earth Defence reckoned on thwarting this plan (of course) and sent their two (if you play with a friend) top operatives into the alien base, there to destroy the mega bomb with which the genetic warriors intended carrying out their fiendish plan (cue maniac laughter).

Armed with a laser gun and a limited supply of mega grenades (which act a bit like smart bombs, blast the hell out







It's best to already know your clubs when you play *US Classic* (far left), whereas avoiding a clubbing is more to the point in both *Fighting Fantasy* (left) and *Golden Axe* (both above)

of everything on screen), our heroes sneak in. The play area is viewed in *Gauntlet*-style bird's eye perspective. The aim is to charge around each screen and locate the red Xs painted on the ground.

When one is located (using the overhead map placed at the top of the screen), you place a time bomb on the spot. Out to prevent you are the guards; some can only hit you, others possess guns. A swift shot in the pants is enough to turn the toughest soldier to radioactive dust, but a well placed shot will do the same to you, so beware. Scattered around there are chests andopening them reveals ammo, more powerful weapons (the bazooka is a dandy) and bonus points. But we can't stand here and chat cos the bombs' timers are running out. Place the last one and run like hell for the exit. Some good play in this one and *Crackdown* is a fun way to kill a couple of hours.

GOLDEN AXE

In days of old when Knights were bold and heroes had names like Gillius Thunderhead, Tillius Flayor and Axe Warrior, the scene is set for this sword 'n' sorcery romp from Sega. *Golden Axe* lets you play one of the three toughies in a quest to seek truth, justice and a chance to run someone through with your sword. Believe me, there are plenty of chances to do this before the game's finished.

As with *Fighting Fantasy* there is only a jump and fight button, but there are a lot more combat moves ranging from the lethal looking 'web of death' decapitation move to literally picking up your assailant and hurling him bodily across the screen. Beware of the occasional attacker on a mount, these are usually fire-spitting dragons, or a strange creature called a Chicken Legs which whips you with its tail. Tables can be turned if you gain a mount, but if all else fails there are always the magic potions — if your have collected any...).

Each character uses magic differently. Gillius can create lightning, Tillius makes fireballs and Axe can call up an earthquake. Depending on the amount of potions possessed and the skill level of the user, this magic can be useful to dispose of a band of attackers.

Out of the four games reviewed here I must say that *Golden Axe* is my favourite, partly because of the attention to little graphical details, such as the twirling of the sword prior to laying into an enemy, and partly because I'm a sucker for a good sword 'n' sorcery tale. Look out for *Golden Axe* in your local arcade. ■

Coming into Season

'From the arcades to your home computer!' is the usual pre-Christms software house cry. So what's everyone got lined up for us this year?

DOMARK

Following the successful launch of their Tengen licences with *Vindicators* and *Xybots*, Domark will be releasing *APB* soon. The story of Officer Bob, a copper filling his daily quota of arrests, or facing the fiery wrath of his superiors, you are gently eased into the game with a few litter bugs. But soon enough nastier characters show their faces. We previewed this last month.

Next on the list, *Dragon Spirit* takes you to a mythological age to play a hero changed into a blue dragon by divine intervention. He's hurrying to save a beautiful princess from an egregious demon. Find out in late August if our brave hero can save the day.



And round about PC show time watch out for *Toobin'*. This wild and whacky game sees two fun-loving kids setting off to a party on a strange choice of transport — automobile tyres. *Hard Drivin'*, the latest racing game to feature stunning flight simulator style graphics (Domark have the arcade version sitting in their offices 'purely for research purposes' says Mark Strachan, as the swine beats my high score), should be out during November. And finally there's *Cyberball*, a 21st century American Football game featuring very large robots instead of humans. The release date is set for early next year.

OCEAN

Hot on the heels of *New Zealand Story* (see review on page 84) Ocean have *Cabal* set for release, where one or two butch and well 'ard mercenary types will be able to vent their violent anti-social tendencies on a range of enemy soldiers and vehicles.

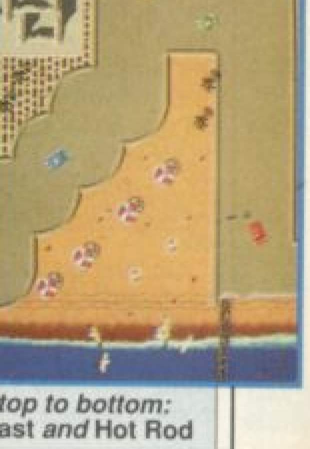


And the arcade action doesn't stop there: around Christmastime you can get *Chase HQ* and *Operation Thunderbolt*. Just in case you've been in outer space for the last six months, *Chase HQ* sets you behind the steering wheel of a black Porsche. Five nasty villains are on the loose, your job is to bring them to justice. *Operation Thunderbolt* probably needs no introduction, the sequel to one of 1987's most popular coin-ops, the mercenary (this time with a friend) is back. The rescue of spies is the aim, but the usual violent conflicts ensue as the soldiers of fortune yomp around the screen.

ACTIVISION

Activision have a veritable flood of titles set for release within the next few months. Between August and November) *Altered Beast*, *Super Wonder Boy* and *Dynamite Dux* should see the light of day. The Christmas biggie will be *Power Drift* — not, perhaps, as violent as the hydraulically powered arcade game.

And there are loadsa conversions set for early 1990. The ones we have info on are *Galaxy Force* (the hydraulic version of this is worse than *Power Drift*), *Fighting Soccer* (Rambo meets Liverpool Utd perhaps), *Hod Rod*, *Sonic Boom* and *Ninja Spirit*.



***Three from Activision, top to bottom:* Power Drift, Altered Beast *and* Hot Rod**

Robin Candy's PLAYING TIPS

SUPER MARIO BROS 2

Space, it seems, is my final frontier. 'Don't waffle', says my editor, because you haven't the room. And why not? With all this sunshine, who wants to waste time? So her we go, straight in with this month's £50 Star Tip...

The Games machine STAR TIPS

(Nintendo)

This month's Star Tips come from Michael Turner **who lives in Essex. He's been playing Super Mario Bros 2 for some time and has sent me the complete solution. But that might ruin your enjoyment of the game, so I'm only publishing tips for the first two worlds this month — more next issue...**

World 1-1

After passing through the first door, climb the first beanstalk. Once on top of the hill pull the piece of grass furthest to the right. Now throw the potion at your feet to the left. Go through the door and pick up the mushroom and the grass. After exiting the subspace, keep going right, over the waterfall, till you reach a hill with a piece of grass and a POW block on top. Pull the grass for an extra life. Now keep going right till you come to another door.

Go through the door and up the beanstalk. At the top continue right and go through the door. Pull the first piece of grass you come to. Throw the potion and enter subspace. Pick the grass to collect coins. Exit subspace. Climb beanstalk — in this section careful climbing is required. Beanstalks with monsters can be tackled by jumping from below onto the monster. If this isn't possible, climb above the monsters on an adjacent vine then swap vines and continue upward.

When the music changes you have reached the section with the end-of-level enemy. To kill it jump on top of the Mint Imperials it fires at you, pick them up and throw them back. Three hits are generally required to kill the thing. And once dead the monster leaves a crystal behind. Collect this to progress to the next level.

Bonus Chance Screen

The wheels do not spin randomly. It's in fact very easy to stop the wheels as required. The secret is to watch for a cherry to appear in the first wheel and learn how often it appears; with this in mind the wheel can be stopped on the cherry.

World 1-2

Climb onto the highest of the three hills and watch when Pidgit swoops. Just before a swoop, jump vertically so that you land on Pidgit's head. When you're airborne pick up Pidgit and you have control of a flying carpet. But move quickly, because the carpet doesn't last long. Head right, throwing Pidgit at any threatening enemies. When the carpet starts shimmering, position yourself over some land till it disappears. The first piece of grass contains a potion. Enter subspace and get the mushroom and as many coins as you can. Exit subspace and go down into the first jar. Get the grass for an extra life. Now exit this jar and enter the next one.

Pick up the key and get out as fast as possible to avoid the chasing Panto. Once out of the jar drop the key and wait for the Panto to disappear, then pick up the key again. Run right and open the locked door. Always use the pick-up key and drop key method to avoid Pantos.

Throw the two enemies down holes, pick up the grass nearest to the brick wall. Drop the bomb on the bit of the wall that juts out and stand back. Now use another bomb to destroy the rest of the wall. Climb the ladder and pick the first piece of grass on the left. Throw a bomb against the right wall so that the floor pieces are destroyed. Repeat this twice, using the furthest two pieces of grass. A potion's hidden under the other piece of grass and you use this to enter subspace and get the mushroom. Now go right through the door.

Jump onto the mound and go left. Pick up the piece of grass and return right with the potion. Throw it into the middle of the grass and enter subspace for the coins. Go right through the door. The end-of-level enemy can be defeated the same way as the previous level.

World 1-3

Climb onto the mask and jump right onto the hill. Head right. At the log pick the second piece of grass to get the potion. Carry the potion to the hill with five blades of grass. Use the potion and enter subspace for the mushroom and coins. Head right again. Pick the first blade of grass under the log for a potion and enter subspace for some coins. Continue right and go through the door.

Do a running jump up to the rope, then climb up. Take one mushroom block and throw it onto the platform above. Take another and jump up to this platform and from there onto the block. Do a power jump. The mushroom can be thrown at the enemy if needed.

Now jump to the platform on the left, then power jump onto the middle platform. Continue up to the door and go through it.

Power jump onto the platform, get the key and run out of the room. Go right and drop down till you reach the platform above the one where you found the mushroom blocks. Proceed along this platform and drop down toward the right. Throw the key at the Shyguy. Wait a moment then pick it up again. Head downward. Drop through the hole with the rope in it. Fall to the right and then go through the door.

Go right and get the crystal. Now go through the mask. You now meet the end-of-world enemy — Mouser. Use bomb found in the grass to blow the wall, then go right till you are in the section beneath Mouser. He throws bombs either to the far left or just left of you. When the area to the left is clear of bombs stand there and catch the next bomb which he throws. Quickly jump and throw the bomb at the platform on which Mouser's standing. Hit him three times... and it's on to World 2.

World 2-1

Head right, watching out for the Cobrats — particularly those which jump out of the jars at you. You soon come across a hill with four blades of grass, the first blade on the left contains a potion. Enter subspace and collect the mushroom and coins. Continue right, jumping over the quicksand, till you reach a door. Go through it.

Dig down in the sand using button B. It's a better idea to dig lots of small tunnels rather than one deep one. Don't pick up any enemies. Go down the ladder and through the door. When attacking the end-of-level enemy beware of the holes either side of the platform. Once again three hits are required to destroy the guardian.

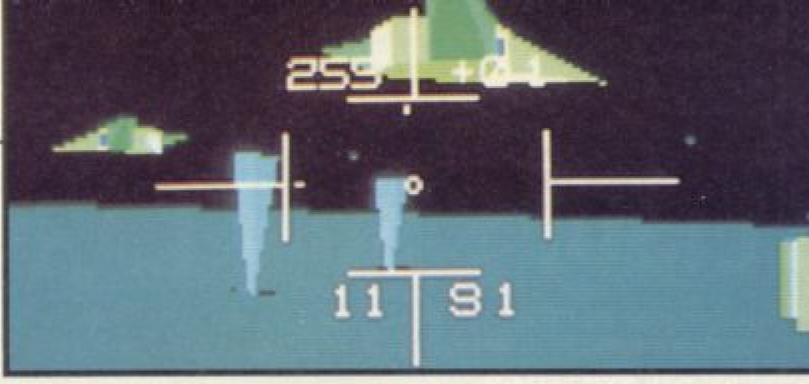
World 2-2

Pull the first blade of grass for a potion. Enter subspace and collect the mushroom and coins. Go through the first door you come to. There are four blades of grass, the lowest of which is an extra life while the other three are all bombs. Pick up one and do a power jump to throw it left at the wall. Go left and pull the middle blade of grass. Collect the potion and enter subspace for a mushroom and coins. Now continue right across the desert. Go through the first door you come to.

Dig down till you come to another door. Go through it. You now meet the end-of-level enemy. Use the usual procedure to destroy this one, but beware of the fireballs.

World 2-3

The first blade of grass contains a potion. Keep going right till you see a red building with a door above you. Jump onto a Beezo



and then up into the building. Once inside, pick the first grass on the right and collect the potion. Enter subspace and collect the mushroom and coins. Leave subspace, continue right and enter the pyramid.

Drop down to the left, then dig down to the door. Go in, get the key, go back up to the surface and through the locked door. Go right, get the crystal and go through the mask to meet Tryclyde.

Put two mushroom blocks on top of the end column. The mushroom blocks prevent any of Tryclyde's fire from reaching you. Pick up another mushroom block and power jump onto the pile of four blocks. Jump out onto the platform on the right and throw the block at Tryclyde. Don't miss! Repeat this with the remaining block. The final hit requires one of the mushroom blocks from the pile of four, so take the top block and jump onto the right platform and throw it at him. You should now be transported to World 3-1

VOYAGER

(Amiga)

Another routine from the Spectral Hacker. **Follow the same procedure as the *Blood Money* POKEs.**

```
10  REM Wait till game has
    loaded then on the options
    screen press
15  REM W and then the DEL
    key, you then get the 4th
    option which
17  Rem is a cheat
20  Joker=459108: Bat=0 :
    Man=204889
30  FOR x=459078 TO 459138
    STEP 2
40  READ y$:z=VAL ("&h"+y$)
50  Bat=Bat+z
60  POKEW x,z: NEXT x
70  IF Bat=Man THEN GOTO
    80 ELSE PRINT "Data
    Error"
80  Print "Insert VOYAGER
    Disk In DFO"
90  Print "Press Any Key"
100 S$=INKEY$: IF S$=""
    THEN 100
110 CALL Joker
120 DATA 41FA, 0010, 397C,
    4EF9, 0130, 2948, 0132,
    4EEC
130 DATA 000C, 33FC, 4E71,
    0002, 01E4, 4EF8, 0800,
    2C78
140 DATA 0004, 207C, 00FE,
    88C0, 43F9, 0007, 0000,
    303C
150 DATA 0145, 12D8, 51C8,
    FFFC, 4EF9, 0007, 001A
```

CHUBBY GRISTLE

(Atari ST)

David Whittle, **Bury**
When the title screen appears type BUUURRP for infinite lives.



BLADE EAGLE 3-D

(Sega)

Christopher Yardley, **Glasgow.**
To choose the level that you start on move the joypad in a clockwise direction when on

SPHERICAL

(Atari ST)

Harjit Singh **from Dalton has sent in these codes for both one- and two-player games.**

1-Player
Level 9 - **RADAGAST**
Level 19 - **YARMAK**
Level 39 - **ORCSLAYER**
Level 59 - **SKYFIRE**
Level 75 - **MIRGIAL**

2-Player
Level 9 - **GHANIMA**
Level 19 - **GILIEP**
Level 39 - **MOURNBLADE**
Level 59 - **JADAWIN**
Level 75 - **GUMBACHACHMA**

BLOOD MONEY

(Amiga)

No sooner had the plea gone out for more Amiga POKEs than what should arrive in the office but two routines from a hacker calling himself the Spectral Joker of Gotham City. **Type the program into your Amiga (save it to disk for future use), run it and then insert the Blood Money disk. Unfortunately, I haven't had a chance to test out the Amiga POKEs because our photography department seems to use our Amiga more than we do...**

```
10 REM infinite lives for both players
20 Plus=561925: Three=0: Spec=626 30 FOR x=518 TO 667
STEP 2
40 READ y$: z=VAL("&h"+y)
50 Plus=Plus-z
60 POKEW x,z; Next x
70 IF Plus=Three THEN GOTO 80 ELSE PRINT "Data Error":
END
80 PRINT "Insert BLOOD MONEY Disk in DFO"
90 PRINT "Press Any Key"
100 J$=INKEY$: IF J$="" THEN 100
110 CALL Spec
120 DATA 23FC, 0000, 0214, 0003, 0038, 4EEC, 000C, 23FC
130 DATA 0000, 0224, 0007, DC4E, 4EF9, 0007, DBB8, 23FC
140 DATA 0000, 0234, 0007, C40A, 4EF9, 0007, A120, 21FC
150 DATA 4E71, 4E71, 3E2A, 31FC, 4E75, 44D2, 31FC, 4E71
160 DATA 2C16, 31FC, 4E71, 3172, 21FC, 4EB8, 0268, 067E
170 DATA 21FC, 4752, 4946, 7E3E, 31FC, 4F20, 7E42, 4EF8
180 DATA 0400, 0879, 0001, 00BF, E001, 4E75, 2C78, 0004
190 DATA 2E3C, 0003, 0000, 207C, 00FE, 88C0, 43F8, 00C0
200 DATA 303C, 0145, I2D8, 51C8, FFFC, 21FC, 2007, 4E71
210 DATA 0I02, 4EF8, 00DE
```

LORDS OF THE RISING SUN

(Amiga)

Andrew McGarrigle **from Mexborough sent me these tips on how to achieve Shogun on the easier levels of the game.**

If you're a beginner select Yoshitsune — this allows you to practise your strategies. To begin with concentrate all your energies on the eastern castles. These tend to fall very easily at the start of a game. Next try recruiting as many men as you can, especially from the White Ronin. If your army is at full strength he may decide to join you. Should he wish to pass unhindered let him — he doesn't pose a threat to your armies or lands early on in the game.



As you've been taking castles in eastern Japan your brother, Yorimto, has been causing havoc in and around central Japan. Rest at one of your castles for a while. Then go and fight your brother — with a little luck he should be killed in the battle. You then inherit your dead brother's lands and armies. If you don't succeed in killing him. persevere till he's dead. You can now start to conquer the rest of Japan.

Once you have taken the mainland make a couple of visits to the Emperor at Koyoto. He should give the sacred scroll and on follow up visits the sacred sword. Around this time keep a watchful eye on the encounter screen. Your enemies will be growing increasingly nervous as your power increases and will send ninjas to kill you. As soon as you as you see a message about a ninja press the left mouse button, and with a bit of luck the offending general will commit seppuku.

Your next task is to take the remaining two islands and the last four castles. Send one of your generals to Nagoya, one to Aikawa and one to Matsue. This prevents your enemies from resupplying when they retreat to the mainland. When you take the final castle you will become Shogun.

General Tips
Always check your siege skills before attacking a castle. If necessary swap skills with another of your generals. The same applies to sword skills (for skirmishes on land) and bow skills (when defending castles).

WORLD GAMES

(Amstrad CPC)
Derek Milton, **Buckpool**
1) Load Barrel Jumping
2) Set number of barrels to 20.
3) Keep fire button pressed while moving the skater's legs.
4) When the black flag appears at the edge of the screen, the skater automaticaly jumps.
5) Keep the fire button pressed while the skater jumps over the flag.
6) Pull the joystick down when the skater begins to fall (keep the fire button pressed the entire time).
7) The Skater lands in front of the barrels. You can take your finger off the fire button now.

DUNGEON MASTER

(Atari ST)
Mark Lawrence, **Basildon.**
Before using this cheat make a backup of the file START. PRG on the Dungeon Master disk in case you want to play the game without the cheat. Insert the Dungeon Master disk into the drive; RUN the program. Once the game has loaded you should have infinite health and strength.

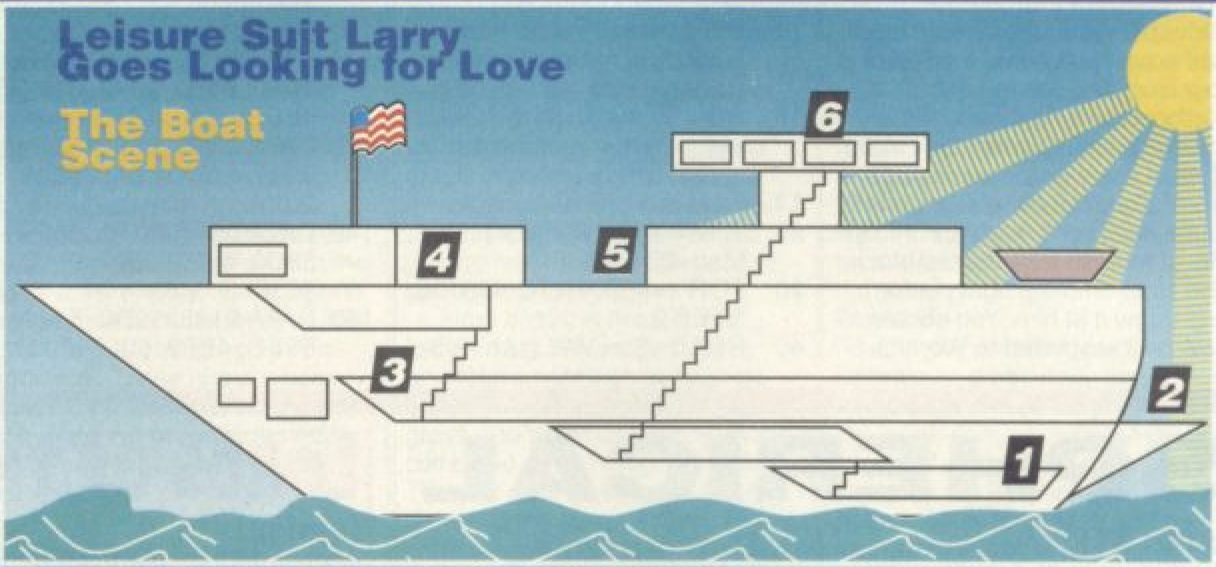
```
10 REM ******Cheat Routine for
   Dungeon Master******
20 OPTION BASE 1: DIM
   A(512): CHEAT =
   VARPTR(A(1))
30 DEF SEG=0: REM remove if
   new ST Basic is in use
40 BLOAD "A:START.PRG",
   CHEAT
50 FOR N=1 TO 5: READ B:
   POKE CHEAT+B, &H4E71:
   POKE CHEAT+B+2,
   &H4E41: NEXT N
60 FOR N=&H260 TO &H26E
   STEP 2: READ B: POKE
   CHEAT+N,B: NEXT N
70 BSAVE "A:START
   PRG",CHEAT,770
80 DATA &H93C0, &H00D8,
   &H00FC, &H0118, &H0154,
   &H93C0
90 DATA &H337C, &H4E71,
   &H433B, &H337C, &HB06B,
   &H48D9, &H4E92
```

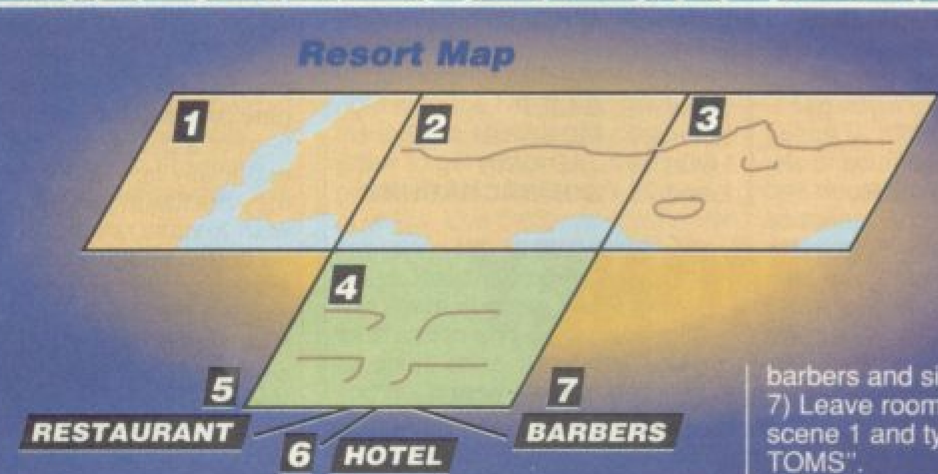


LEISURE SUIT LARRY 2

By popular demand here are some more tips for the second Leisure Suit Larry game, this time from James **Norwood of Gloucester.**

Boat Scene
1) Enter rooom 1 and get fruit.
2) Go behind the dresser and take your clothes off.
3) Leave room, go to room 2. Get in the pool and swim. Then dive and swim to the bottom. Get to the top, then get out of the pool.
4) Put some sun screen on and, then lie down on the sunbed.
5) Get up and exit the pool area.
6) Go back to room 1 and put your clothes back on. Leave room.
7) Enter room 6, get the dip and eat it. Leave room.
8) Enter room 3 and sit down. After the sequence has finished leave the room.
9) Enter room 4. Walk to the lever on the right of the captain. Pull the lever and leave the room.
10) Go to place 5 and get in one of the life boats. 11) Put some sunscreen on, and then use wig.





Resort Map
1) Enter scene 4 and get the flower.
2) Talk to the man in the restaurant and then sit down. Wait.
3) Go over to the food display and stand next to the table on the west. Get the knife and leave the room.
4) In the jungle type "TAKE SHORTCUT" or "TAKE CLOTHES OFF".
5) Once in the room go over to the bed and get the matches. Then go to the bathroom and get the soap. Should the maid come in type "F... LADY" but you must save the game at this point because in the end you will be shot.
6) Leave the room. Go to the barbers and sit down.
7) Leave room. Go back to scene 1 and type "GET BOTTOMS".
8) Enter scene 4, leave the restaurant. Enter room 6; go to the far wall around the corner and take your clothes off. Then put the soap in top and leave the room.
9) Go to room 7 and sit down. When the sequence has finished leave the room
10) Go to scene 3, walk to the right and you shouldn't be recognised by the KGB agents.

SUPER MARIO BROS

(Nintendo)
Stephen Royle, **Salford.**
To get a continue game option hold down the 'A' button while pressing start when the title screen appears.

ALTERED BEAST

(Sega)
Glenn Jackson, **Hornchurch.**
On the title screen press the top left direction button along with both fire buttons. When you start the game you arise from your grave with five energy bars.

£50

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HOLD IT RIGHT THERE **SCREWBALL!**
CAPTAIN LIGHT YOU BRAINLESS **WIMP!**
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Wally Walrus has captured his tea – 20 of Joey Kiwi's friends from the New Zealand zoo, and if Joey doesn't rescue them all by tea-time they'll be stuffed, served and swallowed at Wally's table. Joey has to search Wally's domain which is just how you would expect it to be – FAT with danger!
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SHINE & GRAB 2

A SLIDING SOLUTION



TGM022

From the glamour and glitz of last month's digitised pics to cars and other sexy things. Whatever subject you choose to immortalise with your DIGIVIEW, you will have to cope with a number of different picture carriers. Important is to make your Digiview setup swallow any possible format there is. Here's a range of alternative sources:

Colour or Line Artwork:

As long as you have a mono video camera, or a Super VHS camcorder, with a reasonable copy stand, you won't encounter any problems in achieving reasonable results. The main two things to watch out for is picture distortion and lighting. Most digitising cameras are supplied with a wide angle lens, which creates an unreasonable amount of distortion. If you're into photography (owning an Instamatic will do), you'll know that the smaller the viewing angle, the smaller the image distortion will be. An ultra wide angle lens such as a fisheye displays a completely circular distorted image, while a tele lens displays a near-perfect geometry thanks to its near-parallel lens angle.

So why the choice of a wide angle lens on the digitising camera?

Well, you'll normally want to digitise artwork up to and over A4 size, which means you having to scan a picture height or length of 300mm at least. If you were to have a lens with a big focal length (ie a small lens angle) your copy stand would have to cope with an enormous camera-to-artwork distance. The angle on your standard lens is approximately 45 degrees, which gives you a camera-to-artwork distance equal to the artwork length, ie approximately 300mm for an A4 size. If you don't want to put up with an image border looking like an old Fifties-style telly, you have to dump the standard lens (usually 8.5mm focal aperture) and go for a big focal length

A famous olde town featuring the brightest brains in computer magazine publishing. Yes, you guessed right... we hope.

Digitised from a 35mm neg with an f8.5mm video lens, the original wide angle shot gets an extra warp treatment. Colours corrected and heavily DIGIVIEW sharpened to create sepia and grain effect (if nothing went wrong with the printing prcocess

ALSO IN THIS ISSUE OF CENTRE BYTES...

EMULATING

New state-of-the-art hardware makes state-of-the-art software possible for Amigas and Atari STs. We look into emulating IBM ATs and XTs and Macintoshes on the popular 16-bit machines. Plus a TGM Lab Report on A-Max, a hardware add-on which lets Amiga users run highly sophisticated Mac publishing programs

● Page 37

PRESS ANY KEY



QUADRAFLIGHT! Not for sale this one-off sports car on Triumph basis. Digitised from a 35mm slide with high contrast and sharpness settings.



lens of, say, f=25mm or f=50mm.

Swing the camera on the copy holder to a horizontal position and fix the artwork to the wall at a distance of 1 to 2 metres. Video camera manufacturers such as Panasonic won't supply special lenses. If you own the very popular Panasonic WV1410 camera,

find a good video equipment shop which can provide you with the necessary 2/3-" C-mount lens with manual iris. Expect to pay anything between £40 to £100 for the lens (old rule: the bigger the focal length, the bigger the price!).

Fiat luce! Please let there be light! Nothing more true in digitising than that. Only problem is colour digitisers are quite finicky about the colour temperature of the light, ie whether you use normal, colour corrected, halogen or fluorescent light sources. To avoid wasting hours of your time and great reamfuls of pound notes, try using miniature fluorescent tubes or pinch the miniature halogen lights which illuminate your chic art collection. Seriously, your video equipment store can provide you with special video lights, although they may want to sell you either portable battery operated camcorder lights (expensive!) or 1,000W-plus floodlights. Other than that, go to your Do-It-Yourself store and buy the short fluorescent tubes used in bathrooms and kitchens. They're not colour corrected, but you can compensate the bluey tinge with the DIGIVIEW colour control slides. When setting up the lights, make sure you avoid hotspots. Use four bulbs or two tubes to ensure even lighting across the artwork and set them at a large enough reflection angle to avoid shiny patches on the artwork (not easy to overcome!).

SLIDES AND NEGS

These are probably the easiest media to use. There's an abundance of slide copiers available on the market, but very few that provide adequate performance. Avoid systems which require the slide or neg to be back-projected from a normal slide projector onto a halfmirror, onto which your video camera focuses, as they are very difficult to set up and you usually end up with a centreweighted illumination pattern. Better are the tube-shaped slideholders twhich screw onto the camera lens. They require you to organise your own lighting, but if you have a slide projector, you have a halogen light source, which you can point directly onto the diffuser which is normally located at the free extremity of the slide holder. The problem with these units is that they don't provide for the existence of a mechanical colour filter wheel in front of the lens and you therefore loose the colour option (camcorders usually don't feature such eccentricities!).

A further drawback is that they don't provide enough control over the picture format, ie size/scale and subject centring. If it's versatility you're looking for, construct your own slide-copying system by ransacking your old photo kit. If you can obtain a piece of milky-white diffuser glass (or plastic) you're in business. A bit of clever cardboard engineering generates a slide holder with the diffuser glued in place between light source and slide. Ideally you should obtain a macro bellows guide or any solid holding device, which can be positioned on the copystand above the fluorescent/halogen light source to position the slide or neg horizontally at a correct distance to the lens. By cranking the video camera up or down the copy holder column you can adjust the picture ratio on the monitor. Don't forget to leave a gap between the lens and your copyholder for the colour filter to do its rotation cycle.

The deliberations on the focal length of the lens apply here as well, but the difference is that the original size is only 35x24mm (assuming you limit yourself to the popular 35mm format), which means that using an f25mm lens not only provides you with an undistorted image, but also gives you a generous120mm distance to the lens — enough leeway to close in on an interesting subject and magnify part of the picture. To this purpose the whole unit can be freely moved over the copystand for best picture composition.

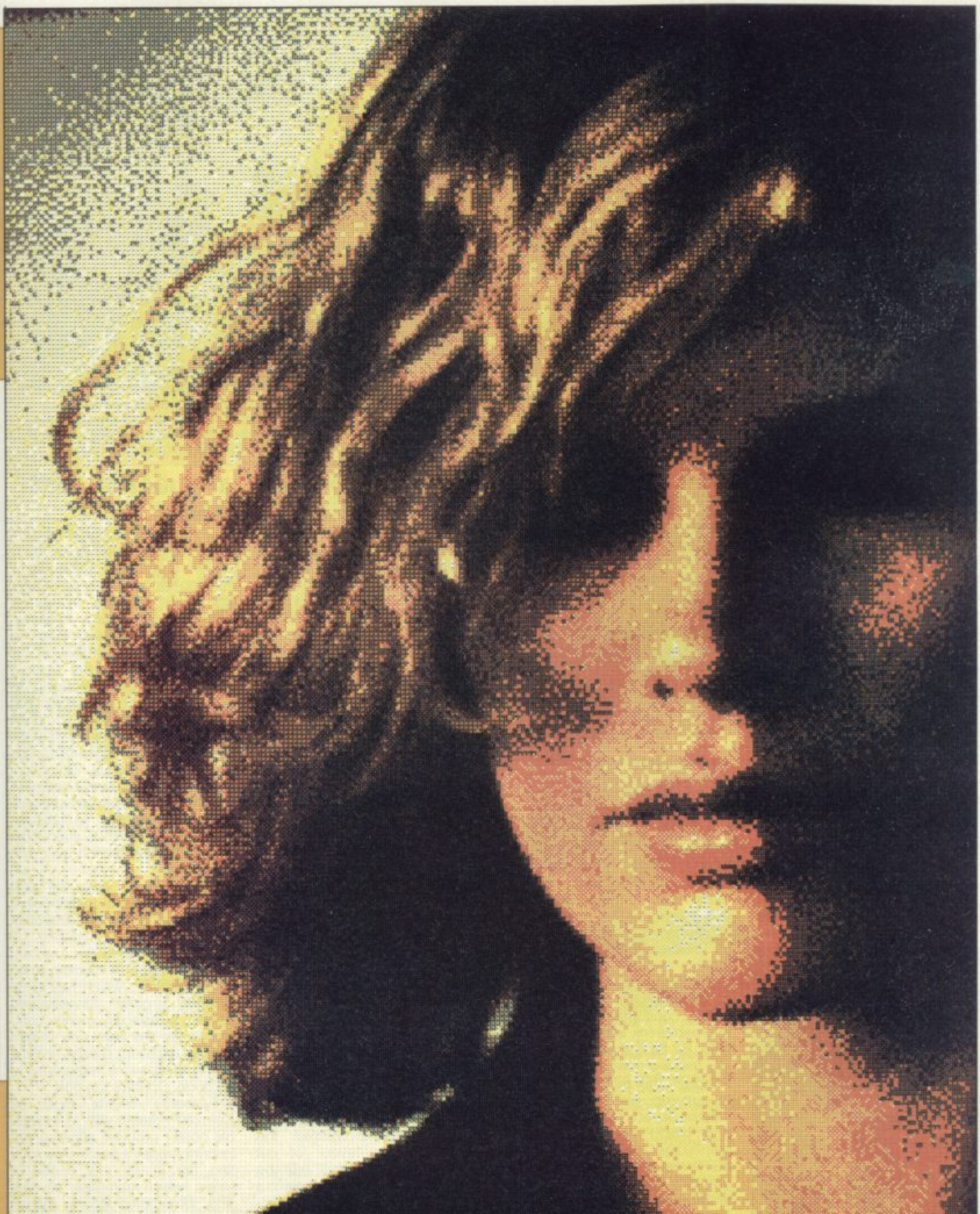
VIDEO SOURCE

A large range of applications fall under this heading and possible video sources are TV, video recorders, camcorders and computers. The major drawback of DIGIVIEW is that it can't cope with colour modulated video signals without extra hardware. Although the first Amiga-based colour image grabbers are at long last coming onto the market, there will be a large number of DIGIVIEW users who baulk at spending in excess of £500 for these new devices. They may however consider upgrading their DIGIVIEW system so it can handle colour video sources. This is going to be the subject of next month's article.

Right: PhotoLab blowing sultry Kim Basinger out of all proportion! This large picture is only one quarter of the digitised image, which can be seen, smaller, at the top of the page

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Left: a detail of thegiant-sized PhotoLab poster of Michelle Pfeiffer (see last month's article!). Thanks to anti-aliasing, picture detail exceeds digitised resolution. Above: screen shot of the digitised Ludlow street used in the printed title picture

XEROX 4020 INK JET COLOUR PRINTING

Setting up the printer is a doddle if you follow the instructions provided in the manual and there's no point going into the nitty gritty. Make sure you have the Workbench 1.3 printer drivers, as there's a major improvement in speed and print variable options over version 1.2 drivers. Have a wet cleaning cloth to hand for the first printout — when you do an A4 size print the paper has to be correctly positioned on the printer platen, which can only be done by trial and error, leading to part of the picture printing directly on the platen. Insert the paper about an inch to the right of the casing edge and you might not have to clean up the mess.

The print preferences allow you to set all the necessary parameters including left offset and density etc. Operate with density 1 or 2 depending on whether you can afford the extra ink pumped onto the paper with setting 2. The subwindows GRAPHIC 1 and 2 allow you to mess about with scaling, dithering and smoothing controls etc. Color Correct RGB reduces the amount of possible shades achieved by dithering, but provides better rendition of the screen colour. The results obtained are simply excellent and can only be beaten by much more expensive thermal transfer colour printers.



ALL ABOUT YOUR VECTOR ACCOUNT

For those fortunate enough to be able to consider purchasing the XEROX 4020 colour ink jet printer (RRP of £1,437.50!), here's a rundown of the machine's running expenses and other quirks — assuming, of course, that it's mostly used for colour graphics work. It's highly unlikely that anyone would purchase it for text applications only!

The consumables costs split into paper, ink and maintenance fluid. By far the most expensive of these items is the ink. Although this printer allows you to top up each of the four colours (cyan, magenta, yellow and black) separately, unlike some other ink jets (HP PAINTJET), you'll quickly find your graphics printing being regularly interrupted for topup requests for one colour at a time. At least you're not forced to throw away a multi-coloured cartridge with plenty of ink still left in it.

Top on the popularity list is the black ink, as most shades are heavily mixed with it to give a good dense appearance to the printed image — about a 4:1 ratio, ie by the time you're asked to topup cyan, magenta or yellow, you will have probably done four fillups of black. The ink supply comes either as a RAINBOW PACK of 5cc cartridges for the four colours, or you can acquire single-colour packs of 2 x 5cc cartridges. Assuming full colour A4 prints, expect to get between 15 and 20 copies with one black cartridge and between 50 and 80 for the other colours — a cost of about 40p for each A4 copy.

The consumption of the maintenance fluid is more difficult to predict, as it depends on the amount of times you switch the printer on and off between printouts. The XEROX 4020 performs a lengthy wash routine on startup and shutdown, or on command by pressing the recover switch at the back of the printer when clogging occurs, and this is the only time it uses maintenance fluid. Add another 5p per copy to be on the safe side.

This leaves the paper cost, which varies depending on the paper format you use. Best cost performance is achieved with single-sheet A4 paper at 5.8p per sheet. Roll paper works out at an amazing 12p, assuming a cut waste of only 3mm. It would appear that XEROX has structured the paper cost in favour of cut sheets, so that you will be inclined to purchase their cut sheet feeder accessory, particularly as it's fiddly to load cut sheet paper into the printer. So the total cost of a page adds up to 50.8p per sheet and don't forget the meter is running even if you don't get the hardcopy right first time. On the plus side, think what it would cost you to have an A4 photographic print made!

APPLICATION SOFTWARE

The Amiga is probably the only machine to include colour print drivers in its basic configuration. All application software makes use of the standard drivers and compatibility is thus ensured. There's no particular piece of software to recommend for the hard copy output, the obvious choice is DIGIVIEW itself, as you can alter your digitised image while it's still in 21-bit RGB form in memory and make the necessary corrections on brightness, contrast, saturation, colour balancing and sharpness to adjust for a perfect printout. Always remember to optimise for a perfect printout, even if the screen representation may look impaired!

DIGIVIEW is also the only graphics software to provide a full display of a high resolution interlaced screen. DPaint 1,2 and 3 will not allow this and convert on loadup to medium resolution display , which has to be scrolled around approximated under a special menu command. On the plus side DPaint has an excellent palette control, and if there's any retouching to be done, Dpaint's the one.

Favourite choice must be Deluxe Photolab with its incredible poster program allowing you to print massive posters by splitting the image into pages or strips, which can then be tiled and assembled on a carrier. What makes this program a definite hit is its excellent anti-aliasing feature, which removes the 'jaggies' and creates the impression of a higher resolution than actually exists, important if you consider a resolution of 640 x 512 spread over metres of poster!

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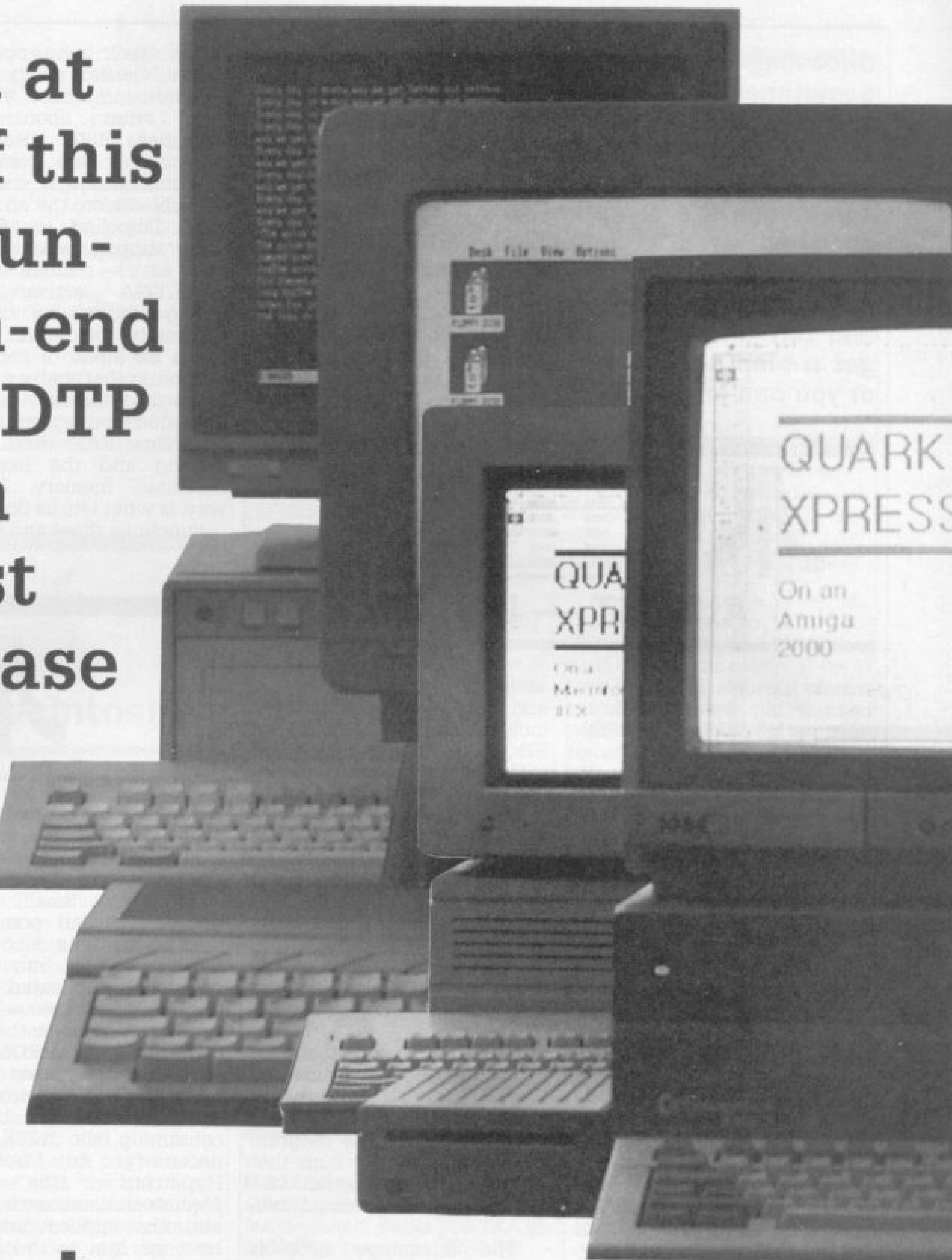
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The Amiga at the front of this picture is running a high-end Macintosh DTP application with almost effortless ease — it's all part of the latest computing rage — time to...

Emulate



Emulation means to 'become like' — to do exactly as the other computer does in all things. As Paul Daniels might say: 'Computer, become an IBM... now turn into an Apple Macintosh.' Now you too can say Hey Presto! and turn your ST or Amiga into any IBM, Mac, or piece of furniture you like. Marshal M Rosenthal grabs a magic wand and announces his own Emmys from America, and Franco Frey provides an a-mazing TGM Lab Report on A-Max, the add-on which means major Macintosh electronic publishing packages like Quark Xpress and Adobe Illustrator 88 will run on an Amiga. Some Amiga-only mags have said A-Max can run PageMaker 2, but that's in the Mac dark ages — you have to read TGM to discover the really astonishing truth...

Choosing a computer is very personal. Sometimes it's easy _ there's a fantastic game available only for the Compubrill, or a great deal on the Budgetbuster. The Atari ST and Amiga computers are great machines, but sometimes it's tempting to look towards the so-called `real' computers, the IBM and Macintoshes which have so much respect _ and software. What do you do? You can go out and buy an IBM or clone for an extra £500, get a Mac SE for over a couple of thousand... or you can emulate.

Atari ST — IBM XT

Avante Garde's PC-Ditto has been a big seller for those needing MS-DOS compatability. This software IBM emulation package enables the ST to become an IBM clone. First you use a special Menu program which sets up the parameters; here you can specify which drive will be A and B, how many characters of text across the screen, default colours for CGA mode and even simulate a serial mouse. And, of course, you can designate the printer and serial ports. Once this is saved as a configuration file, you can exit the program and then run PC-Ditto.

The disk drive will whirr and stop, then ask you to insert an MS-DOS operating system disk (one of the helpful things is that the Atari 3.5-inch drive is the same as that on an IBM — you can also install a 5.25-inch drive). After this disk runs, you are presented with the famous, and boring A> prompt.

ST users did have one BIG complaint about PC-Ditto, though: it ran slow, slow, slow, about 15% the speed of a 4.7 MHz XT. This made it very tough when displaying graphics, and nearly useless for games.

And so comes PC-Ditto II. The speculation over this HARDWARE device has been going on for a while — and many thought that it would be a plug-in cartridge. AG's president, Bill Teal, has the latest on the realities of version II.

'We decided to go with an internal board,' begins Teal, 'because it's easier to leave alone than having to deal with popping a cartridge in and out. The board is only 4x5 inches and fits inside all the STs, even those 520s that have installed added memory devices. It's a simple installation that takes about 20 minutes. All you do is follow the instructions for your particular ST — remove the cover and take off the shielding over the motherboard. There's no soldering or wire-cutting — just fasten two simple clips over the 68000 chip, place the board down, and close up the computer.'

Teal notes that custom gate arrays are used to achieve an IBM XT clone, a clone that is dormant until the PC-Ditto II program is run. The program even duplicates the bugs that are found in the original computer for greater compatibility.

'The advantage now is speed,' says Teal. 'In fact, we had to have special programs to slow II down to the 4.7 MHz of the XT so that games and the like wouldn't run too blindingly fast. Warp speeds the system up, while Sublight slows it down. Want to talk about fast? How about running quicker than an XT 10 Mhz Turbo?'

Teal is quick to point out the few negative sides. Joystick support is not included, and II isn't compatible with the newer AT series, nor will it run OS2 or 286 commands. 'But,' he says, '90% of the software out there uses the XT standard, and will work on our system.'

'Colour is still in the realm of monochrome and four colour CGA, but we've been working on this also,' comments Teal, who points to Avante Garde's policy of free software upgrades.

So what about those upgrades Bill? 'Okay,' he relents, 'we are completing four functions that should be available before the end of the year. The first is 16-colour EGA support, which hasn't been easy — remember that a lot of EGA is activated using strange 'hooks' by the programmers, and this could cause all kinds of confusion. Second is that we're going to crash the 640K barrier, for an extended memory system that will allow RAM disks, multitasking and the like. This extended memory, by the way, is what lets us do EGA.'

Functions three and four are equally interesting. 'PC-Ditto would let you use an Epson/compatible printer,' says Teal, 'but PC Ditto II also supports the Atari Laser (in Epson MX80 emulation). The final addition is music; IBM MIDI support for the Roland MPU-401 synthesizer through Atari's built-in MIDI ports. That should make a lot of people very, very, happy.' Teal is also quick to state that the software-only version of Ditto will continue to be sold.

Having used PC-Ditto II in a 1040ST with excellent results, we concur with Teal's statement above. If you want an IBM clone, forget about buying a new machine — the ST and PC-Ditto II is the way to go.

Atari ST — Apple Macintosh

Now for the Mac, which is a lot trickier. David Small (Gadgets by Small) created the Magic Sac some time back. This was a cartridge which plugged into the ST port, and duplicated a Mac through software — inside the cartridge was the Mac's operating system ROM chips. Refinements since then brought us to Spectre 128 — again a cartridge, but one containing the 128K ROMs necessary to use the Hypercard (the main Macintosh database software) and other applications. Here's how you get to the Mac SE one meg, black and white screen that the Spectre 128 emulates so well.

You can leave the cartridge plugged in — nothing will occur until you activate the program (1.9 being the most current version). Up will come a configuration window to set parameters of memory, sound implementation, and formatting of disks (including hard disks). The sound driver gives you all the beeps and bongs you'd expect, and the new software lets the ST sort of duplicate the digitised sound quality of a real Mac (Small really outdid himself here because this has to be done through software).

Now you let the program go. After a short bit, you are told to insert a Mac Startup disk. Mac disks have to be transferred to this format to work, because they're truly bizarre — a Mac drive speeds up and slows down while it's working. This is why there's the formatting commands, because you must use the special Spectre format. To get programs over to this format means connecting the ST to a Mac, or downloading a program using the ST and then running a conversion program. The only alternative is the Translator One device that lets Mac disks work in the Atari drives. But it doesn't always work, costs too much, ties up the MIDI ports, and is extraordinarily slow.

To continue, the Startup disk performs, and WHAM there's the Mac welcoming screen. A few moments later and the Mac desktop makes its appearance. This screen looks best when using a monochrome monitor — in fact you get a bit more picture area as a bonus. Using a colour monitor is bearable, mostly due to switching which lets you scroll between a two-screen sized image stacked vertically. But this eats up memory on a 1040ST that keeps Hypercard out of the picture, and text looks pretty awful. Anyway, now you do whatever you want, with a few rules peculiar to the Mac and Spectre. So what's to complain?

Just that you can't use Mac disks. But that's being changed, because Gadgets are releasing their GCR cart. Standing for Group Coded Recording, this new product takes care of the funny Mac disks direct. Just pop a Spectre or Mac disk in a drive and go for it! GCR plugs into the cartridge port and takes the Mac ROM chips that were in your Spectre cart (ROMs can't be sold by Gadgets but are available through other vendors). A cable is then attached from the GCR to your external drive, or to the external floppy port if you've only the internal one.

Using the cartridge port enables the transfer of information at a rate of one million characters a second. That pretty much says it all. Speed is now the norm.

Printer support on a Spectre/GCR includes Epson compatibles, the popular HP Deskjet (you have to purchase a Mac printer driver for these), plus the Atari Laser printer (Gadgets are still working on getting Ultrascript to kick in — give Dave a bit more time). Gadgets also send out a newsletter on an irregular basis that is full of timely and useful information.

Amiga — Apple Macintosh

A-Max, by Readysoft, is similar in many ways to the Spectre cart. It's also a cartridge which contains the 128K ROMs, and plugs into the computer — in this case to the Amiga's external disk drive port. Unlike Spectre, A-Max has two connectors on the back, one for an Apple 800K external drive and the other as a pass-through for additional Amiga drives. The choice here is to either use the Apple drive for normal Mac disk use, or transfer the software as you would do with Spectre.

Let's skip aside the similarities to Spectre (like configuring printer and serial ports), and focus on the differences. Firstly, a number of video modes are supported: 640x400 interlaced, 640x200 with scrolling, 512x342 interlace (Mac standard), plus 1008x800 in use with the A2024 or Moniterm Viking high-res monitor. PAL support is included for screens up to 640x512 interlace. But where this all gets exciting is in use with the new Commodore Extended Chip Set (ECS), which not only lets you use a lot more memory for running programs (ECS allows one meg of chip RAM), but also gives you a 640x400 NON-INTERLACED picture!

David Foster, President of Readysoft, continues to note the advantages of A-Max on the Amiga. 'A-Max has many special features of great value,' he begins. 'The Preferences program lets the user emulate an Apple Imagewriter on 9 and 24 pin Epson compatibles, and if you've a 68020 in the Amiga, A-Max will use it too — providing you've the 128K ROMs. Besides doing the opening bong sound and letting you change preferences within the Mac startup environment, it's also worth mentioning that you can 'hard wire' a 500/2000 so that it will use one meg of continuous memory even though you've not the new chip set, and there's a built-in RAM disk too.' Foster also notes that the cartridge can be left connected all the time, and that A-Max will also read Magic Sac and Spectre disk formats (doesn't work the other way however).

Among its pleasures, A-Max is able to use a colour monitor to get that interlaced full screen (not having to see a scrunched up colour image as on the Spectre/GCR — or attaching a monochrome monitor). Two disadvantages do exist, though; one being that you can only read information from Magic Sac/Spectre disks, the other is that A-Max doesn't support hard disks.

Hopefully these two areas will be addressed soon (in fact I have just received a software upgrade to correct minor bugs in the starting programs — Readysoft aren't slacking). These two points aside — A-Max does just about everything you could ask for in a Mac emulator.

Amiga — IBM AT

The Amiga can also emulate an IBM, and does so using an internal hardware card from Commodore called the A2286D Bridgeboard. This fills a slot in the 2000 series, and provides full AT class MS-DOS compatibility. The board is activated by running a special library file called Janus — and can be used concurrently with the Amiga, this because of the computer's multitasking ability.

The Bridgeboard is really an IBM AT clone, with a 80286 CPU chip (running at 8 MHz), one meg of onboard RAM, and a socket for an 80287 maths coprocessor. Besides coming with a 1.2 MV 5.25-inch floppy drive drive (which can be installed inside the Amiga 2000), a hard disk can be shared between MS-DOS and AmigaDOS. And the Amiga mouse can also emulate a Microsoft mouse.

Use is simple and exactly as you would think when you're inside an MS-DOS window — graphics run at normal speed as they should, although the Bridgeboard can only display monochrome and GCA graphics.

One must keep in mind, though, that you could buy an IBM clone for less than the card — Commodore's own Colt IBM-clone sells for about half of the retail. But there's nothing like watching two different computers running together, and it's a lot easier on desk space for sure!

Product Information

■ **A2286D Bridgeboard:** Commodore Business Machines (UK), *Commodore House, The Switchbank, Gardner Road, Maidenhead, Berks SL6 7XA.* Tel: (0628) 770088. XT version: **£460.00** AT version: **£780.00**

■ **A-Max:** Readysoft Imported under licence by: Entertainment International, *4 The Stannets, Laidon North Trade Centre, Basildon, Essex SS15 6DJ.* Tel: (0268) 541126. **£134.95** (ex ROMs), **£249.95** (inc ROMs)

■ **PC-Ditto II*:** Avante Garde, *381 Pablo Point Drive, Jacksonville, Florida 32225.* **$299.95** (US price)

■ **Spectre/GCR*:** Gadgets by Small, *410 West Littleton, #210-211, Littleton, Colorado.* Spectre: **$199.00** (US price) GCR: **$299.00** (US price)

* Grey imports are also available from other outlets in the UK.

Fully Professional Electronic Publishing is here on the Amiga. How? Turn the page to read the TGM Lab Report on A-Max and how it can run the two most important Macintosh publishing packages

PRESS ANY KEY



AMIGA DONS A MACINTOSH

Everybody put up their hands who has had the slightest yearning for a Macintosh (preferably a MacIIcx)? Thought so, drop your hands.

But I bet anyone who's reached the price list stage will have been convinced of the unlikelihood of ever being able to own one. But what about an Amiga in Mac clothing (or is it a Mac in Amiga clothing?) Impossible? Not so says Ready Soft Inc and goes on to perform a miracle. But is the apparition of the A-Max Mac Emulator an optical illusion created by a lot of hot air? Let's take a closer look at this hybrid and find out.

Anyone expecting to invest in a £134.95 Mac Emulator and to be a proud owner of a Mac lookalike will be sorely disappointed. As with all good things in life, a Mac lifestyle is not cheap and easy to come by. A quick read through the manual convinces that there are a number of hurdles and obstacles to be overcome.

For a start, the light grey A-Max unit which plugs into the external disk drive socket of the Amiga comes with two conspicuously empty IC sockets. This is where the two Mac ROMs should be fitted. No, they are not supplied with the base unit, and yes, Entertainment International Ltd — the UK importers of A-Max — can supply them to you at extra charge. Total price of A-Max with the 128K ROMs is £249.95. Still, a small price to pay for total Macability.

Although there's a choice of fitting the old 64K ROMs instead of the new 128K ROMs, it's recommended to use the new 128Ks because the old ROMs won't allow you to read the new system disks under the HFS filing system and won't cope with 68010/20/30 accelerator boards. A Hard Disk 20 file is included in the A-Max utilities disk which overcomes this problem, but you're limited to System 3.2 or older! (Latest Mac issue is System 6 — finding a System 3 or under is likely to be difficult.)

What other hidden extra costs are there? None really, other than the fact that you may want to overcome the disk drive imcompatibility by connecting a standard 800K external floppy disk drive, otherwise you have to cope with standard Amiga 3.5" drives using the special A-Max format (which incidentally cannot be read by a Mac drive). You can however read Magic Sac/Spectre 128 (Atari ST Mac Emulators) formatted disks supplied by your Atari ST buddies, but you can't write to them.

Also you have to start up first time with a Mini Transfer disk created on a Mac, which is required to transfer across the Mac System and Finder files necessary for booting up the Mac environment on the Amiga.

Which brings us to another minor problem! First of all, you're not really supposed to be pirating Mac software, even if you do have a friendly Mac owner to hand. In fact, Apple are well known to be very aggressive in the defence of their property and quite justly so. So if you are going to run Mac software, system or applications, be sure you acquire it legally! Assuming you have purchased the required items, you still need a friendly Mac owner to help you put across the System and Finder files to your A-Max Mini Transfer Disk (MTD). Easy? Not quite so. The MTD is limited to 272K and you MUST have the System and Finder files for a bootable start-up disk. Now, System and Finder files may easily be of megabyte proportions depending on the amount of Fonts and DAs (see panel) attached to the System — fortunately these can be stripped to a bare minimum by removing all unnecessary items for initial boot-up. However, this still leaves just over 300K when you use a System v5.0 or above. Your only option is to find an older system (3.2 or lower) in order to fit the necessary files.

Having achieved this, things ease up. A-Max lets you format A-Max disks on the Amiga 3.5" drive and provides you with every possible option of disk and file transfer to and from Mac and AmigaDos. There's a better way if you're seriously considering running Mac appliactions on your Amiga — save the hassle and buy an external Mac drive! (Details provided below).

So we have it. How does it look on the Amiga/Mac? The Amiga's booted up in the usual way till you're in Workbench. The A-Max Startup program on the A-MAX PROGRAM DISK displays the startup preferences window. This is where video, memory and print options are chosen. They may be saved for future boot-ups. From here it's straight to GO MAC and after a lengthy setup time the Mac boot screen appears. You're now in Mac mode! You have the last chance of selecting your preferences by pressing the right-hand mouse switch and changing most of the preferences set initially (this gives you the chance on Mac shutdown to reboot the 'Mac' with changed options without having to reboot

VIDEO OPTIONS

The Mac boot-up occurs in whatever screen mode was set in the preferences menu. You may choose between the Mac standard format of 512x342 pixels or a 640x512-pixel mode. The implementation of this format on the Amiga can be set with the Video Mode, which determines how the Mac screen is displayed on the Amiga.

Without any special hardware you can choose between interlace mode, which displays the entire Mac screen, and non-interlace, which splits the Mac screen vertically in two, displaying only the half in which the cursor is positioned. The A-Max-controlled screen follows the cursor position automatically either by fast scrolling, slow scrolling or by paging depending on the selection you make. The only problem lies with the aspect ratio: the display is vertically stretched (2:1), but it's either that or live with interlace throbbing.

A-Max caters for two more video options, both requiring extra hardware. If you install Commodore's Extended Chip Set (if ever available here in the UK...), you can operate with a non-interlaced display of 480 lines, or 960 lines interlaced — assuming you're prepared to purchase the appropriate monitor of course. Other than that, you may have your eye on set on the A2024 or Viking Moniterm full-page monitor, which provides a resolution of 1008x800 in A2024 mode.

PRINT OPTIONS

The Mac has two serial ports and no parallel port. One is the modem port the other a printer port. You have the choice of configuring the Amiga serial and parallel ports to either of these Mac ports. Printing on the Mac is done either by Postscript to the LaserWriter through the Appletalk network or to the Image Writer. Provision is made to hook ImageWriter emulation to any of the two ports. However, even if you do have a Postscript laser printer connected to your Amiga, you won't be able to print directly from any software applications. First you need to intercept the print routine and create a Postscript file on disk, which can then be sent via a File Dump program provided on the A-Max utility disk to a serial or parallel port, or sent to a Postscript bureau for typesetting.

the Amiga!) Your 'Mac' may now be booted by inserting either the MTD or a fullblown A-Max system disk into the Amiga drive, or — AAAHH! what a luxury — by inserting the real floppy Macoy in the external Apple drive.

A-Max is an excellent Mac emulator providing a very compatible Mac operating system with a very reasonable operating speed. The original Mac ROMs and Mac system software guarantee a high degree of compatibility as long as the application software accesses hardware through the Mac operating system (the case with nearly all major Mac applications) and doesn't bypass it. Reflecting this high degree of compatibility there's a high entry price, but a quick glance at a Mac price list will soon convince anyone that it still is a bargain. If you can't live without a Mac environment, but can survive screen deficiencies and lack of Appletalk and hard disk support, A-Max is the solution.



Essential for the serious user: 800K Macintosh 3.5" external drive, with *Adobe Illustrator 88*, *Quark Xpress* and A-Max utilities disk

MEMORY OPTIONS

A-Max lets you allocate a variable size of Amiga RAM memory to the Mac operating system. All sorts of combinations are provided for starting from 128K right up to your Amiga RAM total. You have the option of disabling the second 512K of memory in A2000s and 1Mb A500s to improve Mac compatibility with some stubborn Mac applications. As A-Max has a built-in RAM disk that automatically uses any Amiga memory you're not using as A-Max system memory, it's best to allow for some Amiga memory to be left over. The A-Max RAM disk is particularly useful because it's recoverable and will survive A-Max system reboots, and can be booted from if it contains the necessary Mac System and Finder files.

+++STOP PRESS+++ARRIVED: **QUARK XPRESS**, THE PROFESSIONAL MAC PAGE MAKE-UP TOOL FOR PROFESSIONAL PUBLISHERS, NOW RUNNING ON THE AMIGA!+++

+++STOP PRESS ARRIVED: **ILLUSTRATOR 88**, THE BEST GRAPHICS PACKAGE FOR THE MAC, NOW ILLUSTRATING ON YOUR AMIGA!+++

Yes, thanks to Ready Soft Inc's A-Max Mac Emulator you too can now obtain the most professional and versatile DTP and graphics package to exist on the Mac to run them form your Amiga 2000.

Right, you will say, where's the catch - or is that cash?

All you need is an Amiga 2000 preferably with lots of RAM memory and an external Mac 800K disk drive. The cost, well, if you assume you already have an Amiga 2000 with a total of 3Mb RAM (2Mb fitted on an 8 Mb RAM extension board), then the purchase of the A-Max emulator with the 128K ROMs fitted, the external Mac 800K disk drive, Mac System disks and *Quark Xpress* or *Adobe Illustrator 88* will set you back well over ú1,100. That's ú249.95 for the A-Max emulator with the 128K ROMs fitted, ú250 for the original 800K Mac external floppy disk (cheaper to go for third-party drives although you may encounter compatability problems), and the rest for the system software and Mac application programs.

Why's all that RAM required Well, if you're only going to operate with one Mac drive, you need to make the Mac RAM drive (which incidentally resides outside the Mac allocated RAM area) the active system. This would be the procedure to boot and convert the Amiga into a Mac lookalike: boot up the Amiga as normal. Start the A-MAX STARTUP program on the A-Max Program disk. You're taken to the A-Max preferences window. Set the video and serial/parallel and Imagewriter emulation options. For the memory Options select USER and set the Mac RAM size to 1.5Mb. This leaves you with something less than 1.5Mb which A-Max allocates to the Mac RAM drive. Now GO A-MAX and after a while the Mac boot screen appears. Insert the Mac system disk and your 'Mac' boots up. Press F1 and initialise the RAM drive. Copy your System Folder from the boot-up disk to the RAM drive. Now Shutdown the system and Restart. By pressing F1 during the Mac boot screen display you make the RAM drive your active system.

Voila! You now have something in excess of 700K on the RAM drive (if your original boot disk had a slimmed down System Folder) and can easily load *Quark Xpress* or *Illustrator 88* onto the RAM drive. Startup the application from RAM drive and you have made free the external Mac drive ready for normal data filing duties. What's more, operating from RAM drive avoids disk loading delays and makes up for the little speed penalty incurred on the Amiga (compared to the Mac II).

Is it worth it? If you compare *Quark Xpress* with *Professional Page* (which is totally unfair due

to the price differences!) you may start to understand why the Mac gained its Number One position in the electronic publishing field.. same's true of Adobe's *Illustrator 88*.

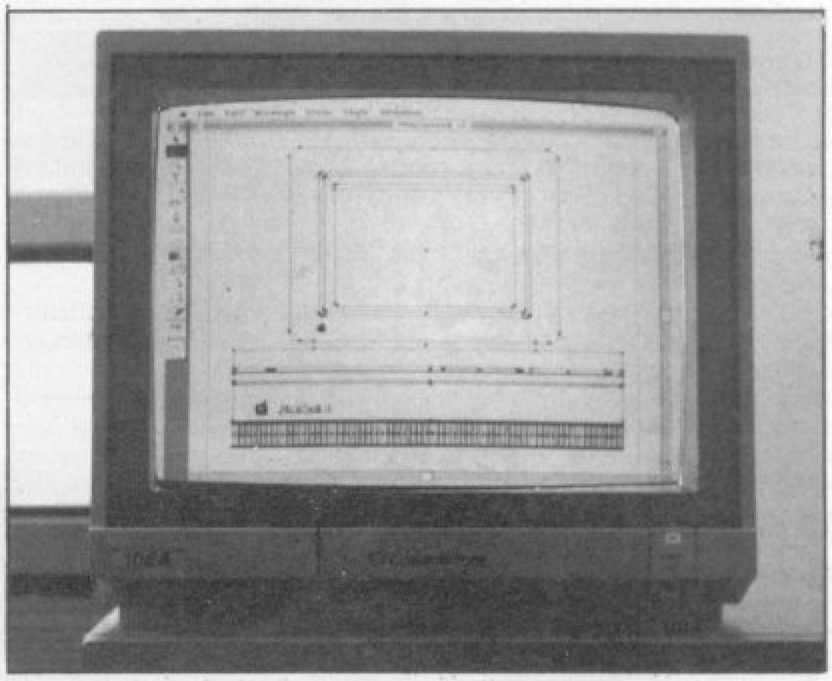
Your main problem however is that after having spent all that money, you still don't have a complete Mac system — the lack of the Appletalk network environment and of any hard disk support on A-Max are heavy penalties. For one, hard-copy printing must be done by generating Postscript files (described in main article). Alternatively you can supply the Postscript file on a Mac disk to a Mac owner or Postscript bureau for laser printing or type/image setting. A-Max does provide an Image Writer emulation program, which allows you to use a 9-pin or 24-pin Epson compatible printer on the serial or parallel port of your Amiga. Hard disk support may be provided on future upgrades. This certainly is a requirement, as anybody who's been working on a Mac knows what mega file sizes have to be transferred even for the simplest jobs.

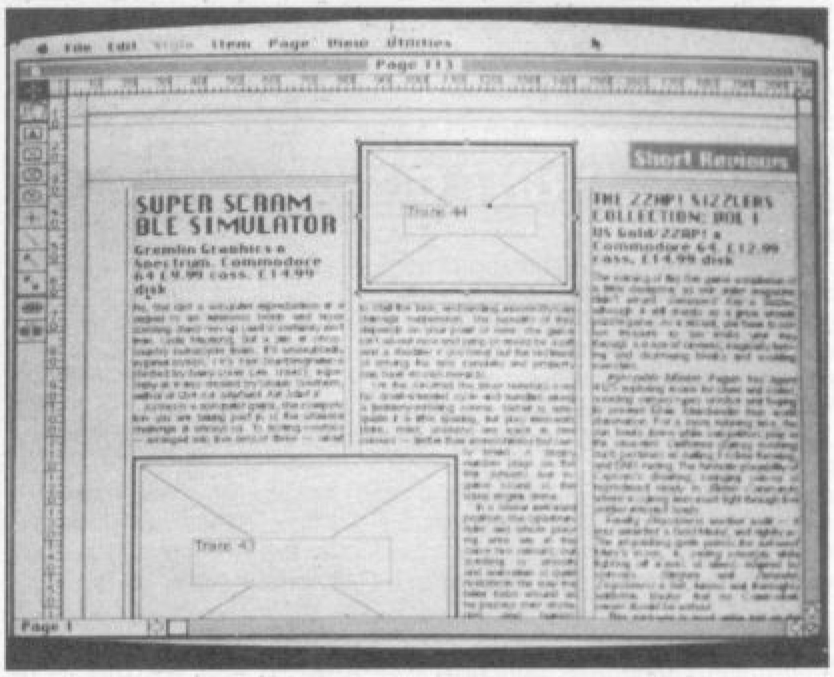
As to the compatibility? So far no problems. The mainstream programs, which have been written within the strict Macintosh operating system protocol all run perfectly well. Care has to be taken with programs which access hardware directly, such as Midi software, copy-protected software, games and certain types of shareware. *Giffer*, a graphics compacting and translation program would not load, for instance.

Last, but not least, the video modes. Unless you want to walk around with constantly strobing eyes and you don't have a flicker fixer, avoid interlace at all costs. A-Max does provide an option to change the two colours from the normal A-Max option to the Workbench default and if suitable default colours are selected, the strobing can be minimised.

Beyond these minor differences from a real Mac, all our Mac operators agreed that using *Quark Xpress* or *Illustrator 88* on an Amiga was immediately familiar. The Amiga key doubles instantly as the Mac Apple key, so *Xpress* users who know all their key commands rather than using the pull down menus, can get going straight away. A-Max keeps all those intuitive methods of working. The same's true in *Illustrator 88*, a vector graphics program which uses Postscript paths to describe open or enclosed areas which can then be filled with colours, or the lines given a weight and coloured (called 'stroking'). It's as simple as it sounds (but complex to get to know), and is, simply, one of the most powerful graphics packages ever developed. Graphics made in *Illustrator 88* can be saved in various file formats, but most importantly as an Encapsulated Postscript File (EPSF), which provides a low resolution image for importing into page maker programs, from where, when the page is printed, the real image goes as well as the text, and in full printers' process colours if that's the type of work you're doing.

We promised an article on how TGM is done using the Mac, but felt it wasn't entirely relevant at the time. Now time has caught up, and in future issues of TGM, Centre Bytes and the TGM labs will be bringing more detailed articles on the use of *Quark Xpress* and *Illustrator 88* for Amiga owners who can now use the programs.





Top: drawing of a Mac II on an Amiga in Adobe Illustrator 88 (the preview version can be seen at the top of the previous spread), and below it, one of last month's TGM review pages taken straight off a Mac-format disk but seen on the Amiga

SYSTEM, FONTS & DAs

The great strength of the Mac is its software systems control. It ensures applications compatibility, and as Apple designers improve the Systems program, users can be sent cheap upgrades which are simply installed to effectively upgrade their Mac. The System file basically runs the computer. The Finder speaks for itself, noting where files go to and from so they can be found again, operating dialogue boxes and generally acting as a disk operating system front-end.

Given that the computer's system is software-driven, it follows that you can attach other types of file to the System on a temporary basis. Fonts are typefaces — different sorts of letter design (this is called Helvetica, the headlines are in **Franklin Gothic** and most of the rest of Centre Bytes is set in Glypha, for instance). Postscript fonts provide immensely high resolution and quality, but are heavy on chip memory. If you want a lot available, the Mac environment allows you to load them (or attach them to the System). You may have 100 sitting on a hard disk somewhere (several megabytes), but by using a program called Font/DA Mover, only the fonts you want to use can be attached to the System file and then appear in most applications such as *Quark Xpress*. They can be removed as easily and replaced with others.

Desk Accessories (DAs) are small programs which provide facilities which can be accessed (from under the Apple Menu) in any application while it's running. These can range from the useful (calculator or alarm clock) to the essential (colour display, printer status, external disk mounting) to the utterly silly (amazing sound samples instead of bongs for alarm sounds). There are hundreds available at charge, in PD and as shareware.

Depending on what environment you want to work in, Fonts and DAs can amount to megabyte-plus additions to the basic System file, which is why they must be stripped out with Font/DA Mover before the System file becomes small enough to be copied across to the A-Max MTD.

This is also where the Mac's great flexibility comes in. You can create many boot-up disks for different jobs with the Fonts and DAs you need for each different job already attached to the System. Thus your Mac, or Amiga/Mac, becomes whatever type of computer you want for a specific job.

THE PRODUCTS

A-Max Version 1.0 Macintosh emulator for the Amiga: Ready Soft Inc., available from Entertainment Int. Ltd. 0268 541126. Excluding Mac ROMs RRP £134.95 inc VAT; fitted with 128K Mac ROMs RRP £249.95

Apple external 3.5" 800K disk drive, £287.50 inc VAT, available from Digital Print Services Ltd, 051 630 6288

Quark Xpress, Adobe Illustrator 88 and all other Macintosh-based products available from Digital Print Services Ltd.

INFORMATION DESK

Are computer auctions much kop? And where can you buy Atari VCS cartridges? The Centre Bytes gurus dive into the postbag once more to answer your questions...

Making the grade

I am a potential upgrader to either the ST or Amiga. However, I am worried about compatibility problems between the newer models and existing software.

Huw Davies, Hemel Hempstead.

At TGM the only compatibility problem we've experienced is with the older 520 STFM's disk drive. As it is single-sided you can't retrieve some information stored on a double-sided disk. All STFMs now come fitted as standard with a double-sided drive so there shouldn't be any problems. While the Amiga hasn't given us any worries (yet).

Is there anybody out there?

I've recently bought a PC Engine and am very happy with it. Unfortunately I don't know anyone else who owns one. Do you know of any PC Engine user clubs?

Stephen Penfold, Rhyl.

PC Engine owners are a small select band and should stick together. The PC Engineers are a group of PC Engine users based in Leicester. They've just set up their own user club and each month members receive a newsletter which covers all aspects of the PC Engine. There is also a facility to swap unwanted games with other PC Engine users. PC Engineers: 6 Gelert Ave, Leicester LE5 2NS.

Going, going, gone.

Could you please tell me the addresses of any computer autioneers in the Avon or London area. Are they good places to buy Amigas, STs and PCs.

Sean Batten, Bristol.

There's a computer auction on the 2nd September at Southgate Technical College, London N14. Generally auctions are great places to buy secondhand PCs, but not so hot for STs or Amigas. Most of the stuff is ex-office equipment and generally in good working order — but there are no guarantees! There are usually several models of each item. If you want to pick up a good bargain (like a cheap printer) don't bid for the first few items as these always go for a higher price, save your bidding for the last few when most people have lost interest.

Simulation frustration

I'm an avid simulation game fan but I'm getting bored with flight sims, they all seem a bit samey to me. Could you recommend any other types of simulation game? I own an Amstrad 1640PC.

Matthew Kennedy, High Wycombe.

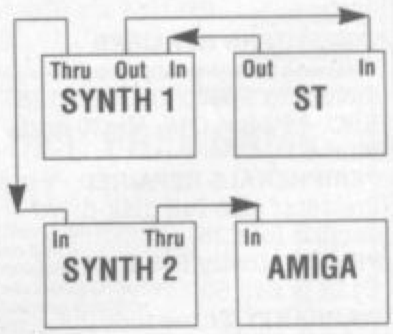
The PC really does seem to be the machine to go for if you're interested in simulations; there are just so many available. If you're getting bored with flight sims you could always try tank simulations (Abrams Battle Tank from Electronic Arts) or submarine sims (688-Attack Sub from Electronic Arts and Red Storm Rising from MicroProse are both recommended). There's also the vast range of car simulations (Ferrari Formula One, again from Electronic Arts, and, probably better, Accolade's Duel: Test Drive II). Electronic Arts: Langley Business Centre, 11-49 Station Road, Langley, near Slough, Berkshire SL3 8YN. Tel: (0753) 49442. MicroProse: Unit 1, Hampton Road Industrial Estate, Tetbury, Gloucester GL8 8LD. Tel: (0666) 54326.

MIDI madness

I've just started a band with a couple of friends. We're using two synthesizers (both with MIDI ports), an ST and an Amiga with Datel's Midi Master. We were hoping to link them all up and use the Amiga as a drum machine. Could you suggest a setup? What software would we need?

John Hicks, Warrington.

It's a little difficult to tell you the ideal setup since you don't say in your letter what you intend to do with the synthesizers; whether you're going to sequence them, play live to a drum track or a combination of both. If you're only going to play live then you don't really need MIDI. Just load your drum track into the Amiga, play and away you go. If want to sequence the synths and use the Amiga for a drum machine then you will need to use MIDI. The ST is the master device and sends MIDI messages to all the other devices in the system. The diagram shows how to setup your MIDI system. Set the MIDI channel receive options as follows: Synth 1 channel 1, Synth 2 channel 2, and the Amiga channel 3. We're assuming that your synths aren't multi-timbral, but if they are then that's no problem just make sure that the Amiga is receiving MIDI information on a different channel from the synths. This setup allows you to sequence all the devices and to a limited degree play at the same time. When you want to record a sequence into the ST sequencer software on the ST just follow the instructions on recording in the sequencer's manual and play the sequence on Synth 1. As for software you're spoilt for choice on the ST. There are sequencers available to suit most price ranges — watch out for a TGM sequencer special soon. While the best Amiga drum machine has got to be Bullfrog's Adrum (£35.95). The program can handle up to 26 samples at one go and play back four at a time — one for each of the Amiga's sound channels. It's also MIDI-compatible. Bullfrog Productions: 3 Bridge Street, Guildford, Surrey GU1 4RY.



Cartridge blues

I've recently bought an Atari Video Games console. Unfortunately I'm having problems getting hold of cartridges. Do you know of any stockists.

Robert Boom, Leeds.

The Atari Games Console seems to be making a bit of a comeback but as yet the cartridges aren't widely available. However, Silica Shop stocks most Atari products including VCS cartridges. Send an SAE for a full list of products and prices. Silica Shop: 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX. Tel: (01) 309 1111.

Perplexed by ports? Struggling with hardware scrolling? Muddled by monitors? Send all your computing questions to Information Desk, TGM, PO BOX 10, Ludlow, Shropshire SY8 1DB. We regret, due to the pressures of magazine schedules, personal correspondence can not be entered into, but the stamps come in handy.

Buying from Mail Order

At TGM we often receive letters from readers complaining about the service they get from mail order companies who advertise in the magazine — not many, but important to those who write them.

There are some rogue companies about, but the majority are straightforward and honest. Having run mail order ourselves for many years, we're well aware that it's often software houses who let dealers down on delivery dates of newly released product. SO, to avoid disappointment, before sending off that cheque in the post, ring the company up first and make sure what you want is in stock — it's easier than sorting out the problem later. If there is no phone number, don't use that company!

GUIDE TO REPAIR SERVICES

No matter how much you care for a computer, eventually something goes wrong.

And you can bet your life it'll happen after the guarantee has expired, so you can forget about sending it back to the manufacturers. In most cases, they won't want to know.

Before packing your computer off to a repair firm, check to see if your local computer dealer can recommend a local repair outfit.

Phone the company you choose and try to get a rough guide of the cost of the repair, how long it will take — and whether they'll give a warranty to do it again for free if the repair doesn't work.

Make sure that the quoted price includes parts, labour, VAT, and return postage.

When sending your computer by post, pack it carefully — preferably in the original box.

Always include a letter with your name, address, and telephone number and the effects of the fault.

Send the whole package by recorded delivery — just 24p on top of the stamp cost — and pay the extra cash for an advice-of-delivery slip (25p if you ask for it when you post the package, 65p if you leave it till later).

That way you know it's got there.

■ **A1 Computer Services.**
Unit 9, Paddock Mount Offices, Dawley, Telford, Shropshire TF4 3PR (0952) 502737.
COMPUTERS REPAIRED 'Virtually any computer' — including Spectrum, C64/128, BBC, 16-bits, C16, Vic20 and Plus 4.
PERIPHERALS REPAIRED Printers; also full disk-drive service for £25.
PRICES Mostly £25-£30, but C128 is £42.50.
WARRANTY Three months.

■ **ACE Repairs.**
Outways Farm, Pelynt, Looe, Cornwall, PL13 2NW (0503) 20282.
COMPUTERS REPAIRED Major makes except Atari ST.
PERIPHERALS REPAIRED Sinclair Interface 1 and Microdrive, Amstrad disk drives and printers and Commodore disk drives, printers and datacorders.
PRICES From £15 upwards depending on fault.
WARRANTY Six months.
INFORMATION Sinclair, Amstrad and Commodore spares and leads.

■ **Ampower Video and Computers.**
15A Alcester Rd, Studley, Warks, B80 7AJ (0527) 853374.
COMPUTERS REPAIRED All 8-bit and 16-bit machines.
PERIPHERALS Printers, monitors, disk drives etc.
PRICE Phone for information.
WARRANTY Three months.

■ **BCL (Best Computers Ltd).**
Galaxy Audio Visual, first floor, 230 Tottenham Court Road, London W1A 3AP (01) 631-0139 or 580-6640.
COMPUTERS REPAIRED All 8-bit and 16-bit including PCs.
PERIPHERALS REPAIRED All.
PRICES A typical small repair would cost £15-£20.
WARRANTY Six months.
INFORMATION Free estimates. Galaxy Audio Visual also sell micros.

■ **Cambridge Micro Surgery.**
Unit 4, 377B Cherry Hinton Road, Cambridge CB1 4DH (0223) 410234.
COMPUTERS REPAIRED Spectrum, C64, BBC, Amstrad, PCs.
PERIPHERALS REPAIRED Printers, monitors, disk drives etc.
PRICES Cheapest is 48K Spectrum at £18.95 plus cost of parts; others from £23.50.
WARRANTY Three months.
INFORMATION Will provide annual maintenance for business micros, on a contract basis.

■ **The Computer Factory.**
Analytic Engineering Ltd, Unit 18A, Grainger Road Industrial Estate, Southend SS2 5DD (0707) 618455.
COMPUTERS REPAIRED All major models except Atari.
PERIPHERALS REPAIRED Disk drives and printers.
PRICES £7-£40.
WARRANTY Three months.
INFORMATION Free estimates.

■ **Electronic & Computer Services.**
1000 Uxbridge Road, Hayes, Middlesex UB4 0RL (01) 573-2100.
COMPUTERS REPAIRED The full range of home computers — that includes all the well-known 8-bit and 16-bit machines.
PERIPHERALS REPAIRED Electronic & Computer Services will repair some peripherals, but write or phone for details in case yours isn't included.
PRICES According to the problem. Phone for a quote.
WARRANTY Write or phone for details. The warranty only covers the problem repaired, not the whole computer.
INFORMATION Turnaround varies, depending on the problem, from two days to a week.
Electronic & Computer Services also sell spare parts. Again, write or phone for details.

■ **Hindley Electronics.**
97 Market Street, Hindley, Wigan, Lancashire WN2 3AA (0942) 522743.
COMPUTERS REPAIRED Spectrum, C16/64, Vic20, CPC.
PERIPHERALS REPAIRED Some.
PRICES Set price for each machine, ranging from £17 (48K Spectrum) to £25. 1541 disk drives £32.50.
WARRANTY Three months.
INFORMATION Average two-day turnaround — well quicker than the average.

■ **HS Computer Services.**
Unit 2, The Orchard, Warton, Preston, Lancashire PR4 1BE (0772) 632686.
COMPUTERS REPAIRED All Spectrums.
PERIPHERALS REPAIRED Phone.
PRICES From £14.95.
WARRANTY Three months.

■ **Hytek Computer (Rentals)**
Unit 4C, Yeovale Industrial Estate, Lapford, Crediton, Devon. (03635) 604.
COMPUTER REPAIRED Major makes, including Acorn.
PERIPHERALS Most major makes.
PRICES Fixed price list available on request.
WARRANTY Three months.

■ **Ladbroke Computing International.**
33 Ormskirk Road, Preston, Lancashire PR1 2QP (0772) 21474 or 27236.
COMPUTERS REPAIRED Mainly Atari.
PERIPHERALS REPAIRED Printers and disk drives.
PRICES According to machine — for example ST £34.50, XL/130 XE £23 (these prices include VAT).
WARRANTY Phone for information.

■ **Microtech Computer Services.**
216-219 Cotton Exchange Building, Old Hall Street, Liverpool L3 9LA (051) 236-2208.
COMPUTERS REPAIRED ST, Amiga, BBC, Amstrads.
PERIPHERALS REPAIRED Printers, monitors; also electric typewriters and other office equipment.
PRICES Start from £30 — call Mike Lopez at Microtech for a quote.
WARRANTY Three months.

■ **MP Electronics.**
Wendling, Dereham, Norfolk NR19 2LZ (0362) 87327.
COMPUTERS REPAIRED Spectrum, C64, BBC B, PCs — in fact all major makes except ST and Amiga.
PERIPHERALS REPAIRED Printers, plotters, monitors, disk drives etc.
PRICES All-inclusive prices for most machines — 48K Spectrum £15, 128K Spectrum, BBC B and C64 £27.50, PCs from £20-£100+. These rates cover all faults except those caused by other people's botched repairs!
WARRANTY Phone for information.
INFORMATION Free estimates. £20 repair and overhaul service for 48K Spectrums — MP Electronics replace sockets, keyboard membrane etc and will repair any faults that develop within six months of overhaul.

■ **Ortec Micro Computers.**
ORC GEC ITEC, GEC Switch Gear, Distribution Division, Higher Openshaw, Manchester M11 1FL (061) 301-2210.
COMPUTERS REPAIRED All home micros and PCs.
PERIPHERALS REPAIRED Printers, monitors and disk drives.
PRICES Depends on fault — phone for details.
WARRANTY Three months.

■ **PM Engineering.**
Unit 8, New Road, St Ives, Cambridgeshire PE17 4BG (0480) 61394.

Attention repair firms !

If you would like a mention in the Back Bytes repair pages, please send the relevant details to Back Bytes, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB, including a phone number and the manager's name (for our files).

COMPUTERS REPAIRED All home computers.
PERIPHERALS REPAIRED Printers, monitors and disk drives.
PRICES Phone. There's a set repair price for each computer, regardless of the fault and including all parts and labour.
WARRANTY Three months.

■ **RA Electronics.**
133 London Road South, Lowestoft, Suffolk, NR33 0AX (0502) 566289.
COMPUTERS REPAIRED All Spectrums.
PERIPHERALS REPAIRED Phone.
PRICES Spectrum 48K £14, Spectrum 128K £20.
INFORMATION RA Electronics also sell components.

■ **Roebuck Designs.**
Victory Works, Birds Hill, Letchworth, Hertfordshire SG6 1HX (0462) 480723 or 480929.
JOYSTICKS REPLACED Roebuck Designs run a clever joystick-replacement service which offers faster turnaround than a repair firm might.

Send in your broken joystick — any model — and they'll send back a second-hand but working stick of the same model. Later, they repair yours and pass it on to another customer.
PRICE £4.50 including return postage.

■ **Telegames.**
Kilby Bridge, Wigston, Leicestershire LE8 1TE (0533) 880445 or 813606.
CONSOLES REPAIRED Atari VCS2600, Colecovision, Intellivision, Sega.
PERIPHERALS REPAIRED Phone to ask.
PRICES VCS2600 £17.95, Colecovision £14.95, Intellivision £19.95, Sega £14.95.
WARRANTY 90 days.
INFORMATION Telegames promise to return the console to you just three days after they've received it. They're also the official UK repair centre for Sega and Colecovision.

■ **Verran Micro-Maintenance.**
Albany Park, Frimley Road, Camberley, Surrey GU15 2PL (0276) 66266.
COMPUTERS REPAIRED Spectrum, Amstrad, Commodore.
PERIPHERALS REPAIRED Printers, monitors.
PRICES Range from £19.95 for Spectrum to £95 for Amstrad PC1512.
INFORMATION Established six years. Approved by Amstrad.

■ **Video Vault.**
140 High Street West, Glossop, Derbyshire SK13 8HJ (04574) 66555.
COMPUTERS REPAIRED Most.
PERIPHERALS REPAIRED Phone.
PRICES From £19.95, according to machine.
WARRANTY Three months.
INFORMATION While-you-wait service in Manchester.

■ **VSE Technical Services.**
Unit 6, 8 Nursery Road, London SW9 8BP (01) 738-7707.
COMPUTERS REPAIRED All Spectrum, Amstrad, Atari and Commodore models.
PERIPHERALS REPAIRED Opus Discovery drive (partner Ian Vaudrey is official repairperson for the Sinclair Discovery Club).
PRICES Each model has a set price which covers all repairs except very major ones like keyboard or disk-drive replacement. Spectrums range from £12.90 to £17.90; C64 is £19.90, C128 £24.90; CPCs range from £21.90 to £24.90; all PCWs are £31.90.

Parts, labour, VAT and return postage within the UK are all included.
WARRANTY Four months.

■ **Wight Computing Home Micros.**
122 High Street, Ryde, Isle of Wight PO33 2SU (0983) 68978.
COMPUTERS REPAIRED Most.
PERIPHERALS REPAIRED Printers and monitors, but check first that the service is available for older models.
PRICES According to the problem.
WARRANTY 90 days.
INFORMATION Wight Computing will also check, clean etc computers which are not obviously faulty.

■ **WTS Electronics.**
Studio Master House, Chaul End Lane, Luton, Bedfordshire LU4 8EZ (0582) 491949.
COMPUTERS REPAIRED All home computers.
PERIPHERALS REPAIRED Printers, disk drives, modems etc.
PRICES 'Very competitive on all models.'
WARRANTY Three months.
INFORMATION WTS Electronics promise to complete the repair within one week from the day they receive the machine. Authorised Amstrad/Sinclair repair firm.

■ **Wynter Electronics.**
Unit 30F, Atlas Village, Oxgate Lane, Staples Corner, London NW2 7HU (01) 452-5660.
COMPUTERS REPAIRED Spectrum, Commodore, BBC, Atari, PCs.
PERIPHERALS REPAIRED Phone for details.
PRICES £18 upward, depending on machine.
WARRANTY Three months.
INFORMATION Repair done in one week.

TOOLBOX ■ For the harder things in life

AMSTRAD PCW

The sheet's hit the fan

Amstrad have just launched an automatic sheet feeder (£113.85) for the Amstrad PCW9512. The feeder can hold up to 30 sheets at once and accepts A4-size paper of weights up to 82gsm. Also included in the package are modified versions of LocoScript and CP/M.

Amstrad: Brentwood House, 169 Kings Road, Brentwood, Essex CM14 4EF. Tel: (0277) 230222.

PRINTERS

Swift stuff

No sooner than last month's printer guide had been finished but what should arrive through the post but details of the latest Citizen 24-pin printer. The Swift 24 prints at speeds of 192cps draft quality and 64cps letter quality, comes complete with four letter quality fonts and a built-in 8K buffer (which can be expanded up to 40K at extra cost). An optional seven colour card can be bought for £38 making the Swift 24 one of the cheapest 24-pin colour printers available. A resolution of 360 x 360 dots per inch makes it ideal for graphics and word processing alike.

Citizen: Wellington House, 4/10 Cowley Road, Uxbridge, Middlesex UB8 2XW. Tel: (0895) 72621.

ATARI ST

Bundles of goodies

Computer distributors Parkfield Communications have announced a new bundle for the 1040 STFM (£499). Included with the computer is £220 of free software including Hyperpaint, Hyperdraw, Organiser and First Basic. You also get a £50 voucher towards three Atari packages: Borodino, Backgammon and Bridge Master. Meanwhile, fellow distributor, Hugh Symons has decided to add an extra three titles to the normal ST Powerpack. The free extras are Star Raider, Final Legacy and Backgammon. However, both these companies are distributors of computers and therefore only sell to shops, with their recommended price, so look around the independents to find the best bundle.

AMIGA

And the word is...

Kuma Computers Ltd have converted their popular word processing aid K-Roget (£29.95) to the Amiga. Based on Longman's Pocket Roget's Thesaurus, K-Roget contains over 150,000 words and phrases. The program also incorporates a phonetic spell checker — mismatched words are highlighted and the user is given a list of possible alternatives. However, to use the program your Amiga system must include either two disk drives or a hard disk. More information on the K- series can be found in last issue's Centre Bytes (page 37) where we reviewed the K-Word 2 word processor, for the Atari ST.

Kuma Computers Ltd: 12 Horseshoe Park, Pangbourne, Berks RG8 7JW. Tel: (07357) 4335.

PC

Guide to style

Prose checkers are notoriously expensive. However, Scandinavian PC Systems' package runs in at only £49.95 (on either 5.25- or 3.5-inch disk). The menu-driven program examines your document to see how it compares with other styles of writing, including general purpose, advertising copy, novels, magazine features, technical reports and children's books. Results of sentence and style analysis are shown graphically next to an idealised set of results to quickly highlight problem areas. At such a low price it's well worth investigating.

Scandinavian PC Systems (UK) Ltd: Freepost Ickenham, Uxbridge UB10 8BR. Tel: (0895) 679367.

ARCHIMEDES

Rock me Armadeus

Clares Micro Systems have just launched a sound sampler board (£149.95) and software (£79.95) for the Archimedes. The Armadeus board offers 64 levels of software, selectable gain, stereo input and high-quality line output. The software is not only compatible with Clares' own sampler but also a whole range of readily available samplers including the Armadillo 448/448b/448mb, the Wildvision ADC 1208 board and the UNILAB general purpose A to D interface with sampling rates of up to 83KHz! The software allows you to read Atari ST disks to convert samples to Archimedes format. Echo, fade in/out and reverse are a few of the comprehensive editing facilities available.

Clares Micro Supplies: 98 Middlewich Road, Northwich, Cheshire. Tel: (0606) 48511.

ATARI ST

Going public

ST owners in search of cheap public domain software need look no further than Paradise Computers PDL. There are no membership fees and all software retails at 75p (excluding disk) or £1.50 including disk. For a full catalogue send an A4 SAE. Next month in Centre Bytes, we'll be taking a comprehensive look at the whole area and concept of public domain software. Don't miss it!

Paradise Computer PDL: 9 Westfield Crescent, Brighton, East Sussex BN1 8JB.

SPECTRUM

You live and lerm

Lerm Software have been releasing transfer utilities for the Spectrum since the year dot. Their latest utility for microdrive owners, the Lerm Micromate (£11.99), formats cartridges with up to 20% more space, repairs files, graphically displays the condition of a cartridge, includes rename and copy cartridge options as well as a host of other other options to make cartridge management easier.

Microdrive owners wishing to transfer games to cartridge are well catered for. Transfer Pack 5 (£12) is capable of transferring many of today's popular games. While three information books (£2.50 each) provide details on transferring some of the more ingeniously protected programs. Microdrive cartridges are also available at £1.75 each (minimum order 4). And, remember, all those dongles that allow snapshotting of programs (like the Romantic Robot's Multiface series) may be banned as of August 1, due to new legislation.

Lerm Software: 11 Beaconsfield Close, Whitley

JOYSTICKS

Blast from the past

Veteran joystick designers Spectravideo (remember the Quickshot series?) have launched a new joystick, the QS-118 Wizmaster (£11.95). Facilities include two different control mechanisms, two fire buttons and an autofire switch. There are three versions available, allowing compatibility with most makes of popular home computer. An infra-red remote control version is also planned for the Nintendo later this year.



Spectravideo Ltd: Abingdon Industrial Park, 7 Blacklands Way, Abingdon, Oxon 0X14 1SU. Tel: (0235) 555455.

Bay, Tyne and Wear NE25 9UW. Tel: (091) 2533615.

AMIGA

Engage photon drive 2

After contract wrangles with Activision, Photon Paint 2 is at long last set to be released in the UK. The original Photon Paint was a strong contender for best Amiga art utility. However, that title was firmly stolen by the spectacular Deluxe Paint III. Now Photon Paint 2 is set to give that a run for its money.

Unlike Electronic Arts' DPaint series, Photon Paint operates in HAM (Hold And Modify) mode allowing the Amiga's entire 4096 colour palette to be displayed on screen at once. The new package includes all the old features that made Photon Paint great, such as extensive brush manipulation commands (including an impressive brush wrap) and freehand tools as well as several new ones. Like Deluxe Paint III, Photon Paint 2's main selling feature is a set of easy-to-use animation commands. However, if you're Amiga isn't equiped with a few megabytes of memory you're animations are going to be very short and simple. Look out for a full review in a future issue of TGM.

MicroIllusions: Unit 4, Cromwell Business Centre, New Road, St Ives, Huntingdon, Cambs PE17 4BG. Tel: (0480) 496497.

ATARI ST

Arthur's listening

Steinberg (creators of the popular Pro24 sequencer) recently released Avalon (£200) a sample editing package for 1Mb STs. Some of the options include: conversion between 8 and 16-bit samples, frequency domain editing, stereo from mono samples and the ability to work on eight samples at a time as well as the usual sample edit options. Evenlode Soundworks: The Studio, Church Street, Stonesfield, Oxford OX7 2PS. Tel (099) 3898484.

DISK DRIVES

Once in a lifetime

In last month's Toolbox we inadvertently printed the incorrect price for the MGT Lifetime disk drive. It is in fact £129.95 and NOT £199 as stated. You will also need a cable to connect the drive to your computer. They come in various shapes and sizes: Spectrum, BBC and QL cables cost £10 each, while Amiga, PC and ST cost £18.50.

And still on the subject of Miles Gordon and disks, MGT have just released a utility disk for all Spectrum +3 owners with MGT's 3.5-inch Lifetime disk drive (or any double-sided, double-density 80 track 3.5-inch drive). The DiscMate allows you to format a disk to up to 706K (normal format size of the built-in 3-inch drive is 180K), get in depth catalogues on screen or printer (detailing areas filled, and the file attributes), complex header manipulation routines (changing BASIC files to code headers, for example) and also a Boot function which allows a the user to reset the +3 from within a program.

And don't forget the MGT Sam Coupe Hotline is still running. Updated weekly by the designer of the Sam Coupe, Bruce Gordon himself. The Hotline Ansaphone number is (0792) 791275.

Miles Gordon Technology: Lakeside, Phoenix Way, Swansea SA7 9EH. Tel (0792) 791100.



SOFTWARE CITY

We welcome customers at

SOFTWARE CITY
1 GOODALL STREET
WALSALL
Tel. 0922 24821

SOFTWARE CITY
59 FOREGATE STREET
STAFFORD
Tel. 0785 41899

SOFTWARE CITY
3 LICHFIELD PASSAGE
WOLVERHAMPTON
Tel. 0902 25304

AMSTRAD CASSETTE

Title	Price
1942	£2.99
Auf Wiedersehen Monty	£1.99
Blood Brothers	£1.99
Blood Valley	£1.99
Empire Strikes Back	£2.99
Fifth Axis	£1.99
Head Over Heels	£2.99
Mask 1 or 2	£1.99
Supersports	£1.99
Bombjack 1 or 2	£1.99
Ghosts and Goblins & Bombjack 2	£2.99
Best of Elite (Commando, Airwolf, Frank Bruno & Bombjack)	£3.99
Cholo	£1.99
Chain Reaction	£1.99
Fastfood	£2.99
Guadalcanal	£1.99
Hive	£1.99
Kinetik	£1.99
Mega Apocalypse	£1.99
Rasputin	£1.99
They Sold a Million (Beach Head, Sabre Wulf, Jet Set Willy, Daley Thompson's Decathlon	£3.99
The Fury	£2.99
Typhoon	£2.99
3 DC	£1.99
720	£2.99
Academy	£2.99
Ace 1 or 2	£2.99
Alternative World Games	£1.99
American Football	£2.99
Arcade Flight Sim	£2.99
Archon Collection	£2.99
Army Moves	£2.99
Artic Fox	£2.99
Artura	£1.99
Bad Cat	£2.99
B. McGuigans Boxing	£2.99
Beach Head	£1.99
Beach Head 2	£2.99
Big Sleaze	£1.99
BMX Sim 1 or 2	£2.99
Bruce Lee	£1.99
Commando	£2.99
Cybernoid	£1.99
D. Thompsons Decathlon	£2.99
Deep Strike	£1.99
Dizzy	£2.99
Eagles Nest	£1.99
Empire Strikes Back	£2.99
Epyx on Amstrad (World Games, Imp. Mission, Winter Games and Super Cycle	£4.99
European 2 Football	£1.99
Euro 5 a side Football	£1.99
Fernandez must Die	£2.99
Flight Simulator	£1.99
Football Manager	£2.99
Footballer of the Year	£2.99
Frank Bruno's Boxing	£1.99
Fruit Machine	£2.99
Game Over	£2.99
Garfield	£2.99
Graham Gooch	£1.99
Grand Prix Sim 1 or 2	£2.99
Gauntlet 1 or 2	£2.99
Ghostbusters	£1.99
Green Beret	£2.99
Hardball	£2.99
Hi Q Quiz	£2.99
Indoor Soccer	£1.99
Jack the Nipper	£2.99
Joe Blade 1 or 2	£1.99
Kikstart 2	£1.99
Krakout	£2.99
Kung Fu Master	£2.99
Leaderboard	£2.99
Leaderboard Add On	£2.99
League Challenge	£2.99
Lee Enfield-Amazon	£1.99
Lee Enfield-Tournament	£1.99
Lee Enfield – Tournament	£1.99
Manic Miner	£2.99
Masters of the Universe	£2.99
Mig 29	£2.99
Mindtrap	£1.99
Monte Carlo Casino	£2.99
Moto Cross Sim	£2.99
Murder on the Atlantic	£1.99
Nebulus	£1.99
Netherworld	£1.99
Ninja Commando	£2.99
Pepsi Mad mix	£1.99
Peter Shilton's Handball	£2.99
Pinball Sim	£2.99
Postman Pat	£1.99
Power Boat Sim	£2.99
Powerplay	£1.99
Premier 2 Football	£1.99
Pro Snooker	£2.99
Rambo	£2.99
Return of the Jedi	£2.99
Road Runner	£2.99
Rugby Boss	£1.99
Rugby Sim	£2.99
Rygar	£2.99
Saboteur 2	£1.99
Sam Fox	£1.99
Scooby Doo	£1.99
Skate Crazy	£1.99
Slaine	£1.99
Soccer Boss	£1.99
Soldier of Light	£2.99
Solid Gold (Gauntlet, Ace of Aces, Leaderboard, Winter Games and Infiltrator	£4.99
Sorceror Lord	£2.99
Speedking	£1.99
Sport of Kings	£2.99
Spy Hunter	£2.99
Star Wars	£2.99
Storm Warrior	£1.99
Street Cred Football	£2.99
Street Fighter	£2.99
Strip Poker +	£2.99
Summer Gold (10th Frame, Imp Mission, Rebel Planet, Dambusters, Bruce Lee and Beach Head 2)	£4.99
Super Cycle	£2.99
Super Nudge 2000	£1.99
Supersprint	£1.99
Tetris	£2.99
Titanic	£2.99
Tomcat	£1.99
Tour De Force	£1.99
Treasure Island Dizzy	£2.99
Turbo Esprit	£1.99
Turf Form	£2.99
Twin Turbo V8	£2.99
Venom Strikes Back	£1.99
Way of the Exploding Fist	£1.99
Wizard Warz	£2.99
World Games	£2.99
Yie Ar Kung Fu	£2.99

EIGHT BIT DISC

Title	SP+3	CO	AMS
3-D Pool	£9.99	£9.99	£9.99
6 Pak Vol 2	N/A	£3.99	N/A
Aargh	£9.99	£9.99	£9.99
Arcade Muscle	£11.99	£11.99	£11.99
Barbarian 2	£9.99	£9.99	£9.99
Barry McGuigans	N/A	N/A	£2.99
Batman	£9.99	£9.99	£9.99
Battle Island	N/A	£2.99	N/A
Big 4 Vol 2	N/A	£3.99	N/A
California Challenge (UK)	N/A	£5.50	N/A
Carrier Command	£11.99	N/A	N/A
Chuck Yeager	£9.99	£9.99	£9.99
Emlyn Hughes	£9.99	£9.99	£9.99
Fernandez Must Die	N/A	N/A	£2.99
Fists & Throttles	£9.99	£9.99	£9.99
Football Director 2	£13.99	N/A	£13.99
Football Manager 2	£9.99	£9.99	£9.99
Football Manger 2 Exp.	£6.99	£6.99	£6.99
Forgotten Worlds	£9.99	£9.99	£9.99
Giants	£13.99	£13.99	£13.99
Gunship	£9.99	£13.99	£13.99
Hillsfar	N/A	£13.99	N/A
Internat. Team Sports	N/A	£9.99	N/A
Jack Nicklaus (UK)	N/A	£11.99	N/A
Kick Off	N/A	£9.99	N/A
Leaderboard Collection	£11.99	£11.99	£11.99
Lee Enfield-Amazon	N/A	N/A	£2.99
Lee Enfield-Tournament	N/A	N/A	£2.99
Licence to Kill	£9.99	£9.99	£9.99
Microprose Soccer	£9.99	£13.99	£13.99
Murder on the Atlantic	N/A	£2.99	N/A
Operation Wolf	£9.99	£9.99	£9.99
Pool of Radiance	N/A	£16.99	N/A
Realm/Spaced Out	N/A	N/A	£2.99
Rebel Star/Pneumatic Hammers	N/A	N/A	£2.99
Red Heat	£9.99	£9.99	£9.99
Revs +	N/A	£2.99	N/A
Robocop	£9.99	£9.99	£9.99
Rockstar	£9.99	£9.99	£9.99
Running Man	£9.99	£9.99	£9.99
Speedball	N/A	£8.99	N/A
Supreme Chall. Soccer	£11.99	£11.99	£11.99
Task 3	N/A	£2.99	N/A
Test Drive 2 (The Duel)	N/A	£11.99	N/A
Thunderbirds	£9.99	£9.99	£9.99
Thunderzone/Think	N/A	N/A	£2.99
Special Action	£11.99	£11.99	£11.99
Spy V Spy Trilogy	N/A	£2.99	N/A
Starglider 2	£12.49	N/A	N/A
Steel Thunder	N/A	£11.99	N/A
Steve Davis Snooker	N/A	£2.99	N/A

Title	SP	CO	AMS
Stryse	N/A	N/A	£2.99
Sydney Affair	N/A	N/A	£2.99
Ultima Ratio/Gunstar	N/A	N/A	£2.99
Xenon	£9.99	£9.99	N/A
Xor	N/A	£2.99	N/A
Wec Le Mans	£9.99	£9.99	£9.99
X-Terminator	N/A	£2.99	N/A
X Y Bots	£9.99	£9.99	£9.99
Best of Elite (Commando, Bombjack, Airwolf & Frank Bruno)	N/A	£2.99	N/A
Four Top Games (Nemesis The Warlock, Slaine, Catch 23 & Pulsator)	£4.99	N/A	N/A
Sidearms	£2.99	£2.99	N/A
War in Mid. Earth	£9.99	£9.99	£9.99
Game Set & Match 1 or 2	£12.99	£12.99	£12.99
Five Star Games 3 (Trap Door, Uridium+, Tau Ceti Firelord, Way of the Exploding Fist, Aliens Strike Force Harrier)	N/A	£4.99	N/A
Edge Classix 1 (Bobby Bearing, Brian Bloodaxe, Quo Vadis, Wizardry & Firequest)	N/A	£4.99	N/A
Marauder	N/A	£2.99	N/A
North Star	N/A	£2.99	N/A
Skate Crazy	N/A	£2.99	N/A
Bangkok Knights	N/A	£2.99	N/A
Gunslinger	N/A	£2.99	N/A
Hellfire Attack	N/A	£2.99	N/A
Hypersports	N/A	N/A	£3.99
Last Ninja	N/A	£2.99	N/A
Track and Field	N/A	£2.99	N/A
Legend of Kage	N/A	£2.99	N/A
Short Circuit	N/A	£2.99	N/A
Mean Streak	N/A	£2.99	N/A
Masters of the Universe	N/A	£2.99	N/A
Superstar Ping Pong	N/A	£2.99	N/A
Time Tunnel	N/A	£2.99	N/A
Blood Brothers	N/A	£2.99	N/A
Rim Runner	N/A	£2.99	N/A
Through the Trap Door	N/A	£2.99	£2.99
Rebounder	N/A	£2.99	N/A
Breakers	N/A	£2.99	N/A
Bravestar	£2.99	£2.99	£2.99
Flunky	N/A	N/A	£2.99
Red Led	N/A	2.99	£2.99
Pulsator	N/A	N/A	£2.99

SIXTEEN BIT SELLERS

Title	ST	AMIGA
3-D Pool	£13.99	N/A
African Raiders	£13.99	£13.99
Airbourne Ranger	£16.99	£16.99
Balance of Power 1990	£16.99	£16.99
Batman	£13.99	£16.99
Kick Off	£13.99	£13.99
Populous	£16.99	£16.99
California Challenge	N/A	£8.50
Carrier Command	£16.99	£16.99
Circus Attraction	N/A	£13.99
Cosmic Pirates	£16.99	£16.99
Crazy Cars 2	£13.99	£16.99
Denaris	N/A	£13.99
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Precious Metal (Super Hang On, Xenon, Captain Blood, Rev of Doh	£13.99	N/A
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The Games machine

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Nintendo 8-bit console with extensive selection of games and attachments. Your chance to move up market. Tel: (Ely) 0353 661189 anytime.

ST contacts wanted urgently, must be double sided disk drive, no beginners. Lists/disks etc. to Alan Chapman, 65 Lime Grove, Doddinghurst, Essex CM15 0QX. Hurry, I'm only looking for first ten.

Soft 968, the Amstrad CPC 6128 firmware guide is wanted. Send your price for a copy in good condition only to John Foster, 94 The Oval, Firth Park, Sheffield S5 6SP. CPC 464 Whole Memory Guide from Melbourne House also considered.

Wanted:– Someone to swap Populous for Space Quest 3 and Bismarck for Carrier Command. ST version. Write to:– Robin Cannon, c/o The Director's Flat, Manchester Business School, Booth Street West, Manchester.

FOR SALE

Sega system for sale including Light Phasor and Konix joystick and two pads, plus five games including Shinobi and Double Dragon. Still under guarantee. All for £80. Phone 0895 22153 before 6pm. Ask for Andy.

Atari 520 STFM, boxed, 18 months old, + £800 of software, all originals, + 20 PD disks, + Comp Pro joystick. The lot only £300. Tel. Paul on 01 514 3588 after 6pm.

Nintendo for sale with Rob, Zapper gun, modified to play USA and Japanese games. + £150 worth of games. Four months old, still boxed. Tel. Carlo on Highcliffe 278 183. Worth £300, sell for £200.

Eight Amiga original games for sale, Voyage, Gunship, Battle Hawks, Carrier Command, Kick Off, Side Winder, After Burner, Interceptor, etc. £70 or open to offers to swop, except games. Tel. 0473 713715 after 6pm.

Amstrad CPC 464, green monitor, joystick, over £300 games including Renegade, Gryzor, Cybernoid II, Ikari Warriors and Taito Coin-ops. Also got mags, manual and Image System. Worth £550, sell for £130. V.g.c. Phone Jason (01) 568 1837.

Nintendo Control Deck for sale. Includes light gun and three games, Super Mario Bros, Kung-Fu and R.C. Pro-Am. Worth £200, only £80. All in good condition. Contact Sanjiv at (01) 455 7525.

Amiga and Atari ST original software for sale including Battlechess, Xybots, Vindicator, Zak McKraken, Rocket Ranger plus many more. Ring Paul on 0787 71774 after 6pm or write for lists to Paul, 9 Springfield Road, Sudbury, Suffolk CO10 6PH.

CBM 64, C2N, 2 joysticks, lots of mags, £600 of original software mainly sports and sims, all boxed and very good condition. Open to offers (within reason). Write to 422 Outwood Common Road, Billericay CM11 1ET or phone Nick (0277) 657430.

Atari 520ST for sale. Excellent condition and 5 months old, still under guarantee, with mouse, 1 meg drive and about £200 of software including Falcon, Hostages, Battlehawks, 1942 and many more. Only £300. Contact P.J. Gregg on 07375 54266 evenings about 6.00pm.

Nintendo system, Rob the Robot, light gun plus seven games. Excellent condition. Retail price £270, sell for £160 ono. If interested please write to Kenneth Chau, 36 Alloway Street, Ayr KA7 1SH, Scotland, UK. Thank you.

LC-10 colour printer for sale. New, boxed, perfect condition. Must go. Only £170 ono. Phone 01 940 2644 for any offers. Plus free demo – 258 Kew Road, Richmond, Surrey.

Sega Master system with light gun, quick fire box and joystick. Games inc. Thunder Blade, Rambo III, Space Harrier, Shinobi, After Burner and Hang On. Still boxed. Worth £270, sell for £170 ono. Phone Tewkesbury (0684) 293409.

Sega console and 48K Spectrum. Sega comes with 6 games, Spectrum comes with 18 games, all originals. Worth new about £350, will sell for £200 (will split). Tel: Aeon on 01 801 5948 after 6.30pm.

Sega system with 2 control pads, joystick and 6 games including World Soccer – hardly used – bargain £100 (no offers) – Tel: (0268) 412135.

Atari 520 STFM going cheap because the Amiga makes it looks silly! For those still interested it includes fast BASIC cartridge and £200 games all for £225. Is it the cheapest ST or what? Phone Maidstone (0622) 20142. Hi Nemesis!

Atari STFM, 1 meg drive, spare drive, mouse, leads, joystick, 30 games, Robocop, Star Ray, Nebulus, Battle Chess, Degas Elite etc. Worth £700+, sell £300 ono or swap for Amiga. Few games, leads. Phone Ian (01) 556 9147.

CBM 64, datasette, Turbo Quickshot joystick, fab games include Last Ninja II, Mega Apocalypse, Microprose Soccer, Darkside, Armalyte, Pacmania and more. In fact its well wicked and at £160 what a bargain. Phone Mark: Rayleigh 781096 after 6pm please.

Sega system with two joysticks, Quickshot and control stick and two joypads, eight games, Afterburner, R-Type, Out Run, Thunder Blade, Hang On, Kung Fu Kid, Shinobi and Rocky. All boxed. £125. Tel: 0235 812612.

Atari 520 STFM, excellent condition, fully boxed, with brand new 1 meg external drive, lockable disk box, 2 mouse mats, joystick, extender leads, 2 joysticks, many utilities including copiers, loads of games. £400 ono. Phone (0344) 779970.

Amiga 500. Boxed and in brilliant condition. 2 joysticks, mouse holder. Software complete worth £1200 including Deluxe Paint 1 and 2, Photon Paint. Ring for details. Modulator, 5 backup utils., CLI mate, Cuma seka, PC emulator and loads more. Whole lot worth approx. £1900, bargain and a MUST for £430 ono. Ring (061) 440 9861, ask for Adam.

Amstrad CPC 464, green mono, modulator, joystick, over 150 games eg. Forgotten Worlds, Dragon Ninja and lots more. Sell for £300. All excellent condition. Please phone Paul on (051) 708 8461 (after 6pm).

Spectrum +3 with tape recorder leads, joystick, manual, magazines and games on both disk and tape, in excellent condition, for £170. Tel: Bristol 830422 after 3.30pm.

Sega system, 6 games, rapid fire unit, joystick, games include Double Dragon, Shinobi, Space Harrier, Pro Wrestling, Enduro Racer and Hang On. £150 ono. Phone (0795) 664640.

Atari 520STFM, one meg internal drive, mouse, joystick, only nine months old, £500 software, mags. Including STOS, Rugby, Thunder Blade. All mint condition. Only £300 ono. Phone Gary, work (0684) 895318, evening/weekend (0386) 554256.

Amstrad games on cassette, all under £5. Games include WEC Le Mans, Pacland, Robocop, Arcade Muscle, plus many more. Send SAE for list to Sunny Chan, 56 Edward German Drive, Whitchurch, Shropshire SY13 1TL. Very good offer.

Amstrad CPC 464 and colour monitor, with 100+ games inc. Elite, Solomons Key, Beyond The Ice Palace and Laser BASIC. Worth £600+ new. Selling for £275 ono! Phone Jeff on 0977 510050 after 6pm.

Seikosha GP100A 10" printer £44.99, ZXLprint III and lead £19.99, Interprinter interface £9.99, Kempston interface £2.99, DK'Tronics soundsynth £11.99. Shaw Brothers information send SAE. Contact G.D. Shaw, 25 Redwood Avenue, Royston, Barnsley, S. Yorks. S71 4JP.

Spectrum games worth over £300, sell for £100 ono. Includes Last Ninja 2, Renegade 3, and 43 more. Tel: 0484 652 635 after 6.30pm.

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Sega system, joystick, two pads, fifteen games, rapid fire unit. Games include R-Type, Rambo III, Phantasy Star, Afterburner. Worth £450, only £200. Bargain. Ring this number after 5pm: 01 0689 49899. Ask for Paul. Contact 36 Oak Bank, New Addington, Croydon.

Spectrum 128+, boxed with manuals, tape recorder, case of games, interface. Very good condition. £70 ono. Contact Jeremy Gibbs on (0270) 664593. Don't delay, phone today!

A-levels force sale of 40 top Amiga games including Hybris, Op-Wolf, Outrun, Pacmania etc . . . Worth £1100, will sell for £360 ono. Phone Ant on 01 883 3216 after 5pm for list. All boxed originals.

C64 cass games for sale. Prices as low 50p. Games include World Games, Rampage, Ace 2 etc. Send SAE for list to Matthew, 6A Duke Street, Waterloo, Liverpool L22 8QU.

CBM 64, C2N, joystick, 12 games including Gunship, Stealth Fighter, Rambo III, Echelon. Good condition. Sell for £100. Tel (0933) 55313. Ask for Simon 4.30pm to 6.30pm.

For sale. CBM 64 with datasette, joystick, back up cartridge, £600 of games including Speedball, Denaris. Worth £800, sell for £160 ono. Free Atari 2600 if bought before August 1st. Phone (0420) 64437 after 4pm.

ZX Spectrum 48k+, Artist 2 and mouse, joystick and over £700 of games inc. Robocop, Karnov, Elite, Airbourne Ranger, Reble Star and Out Run. Only £250 or swap for ST or Amiga. Phone Bob on (0271) 66074 between 4pm and 6pm.

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Atari ST games (originals): Voyager £10, "Wanted", Indiana Jones & the Temple of Doom, £5 each, Impossible Mission II £9, Sentinel £7, Carrier Command £10, Silent Service £10, Epyx Greatest Games Compilation £10. Tel: 01 868 6028.

Atari ST disk games for sale, half the original price or less. For information please ring 0723 379908.

C64, tape deck, joystick. £200 worth of games including Emlyn Hughes, Micro Soccer, H.K.M., Robocop, over £25 of mags, loads of POKEs. £130. Write to Dale Ankers, 8 Gladstone Road, Broughton, Nr Chester CH4 ORN or Tel: 0244 534249. A bargain!

C1901 monitor for use with C64 and C128 computers. Also lead to connect Amiga to C1901 monitor, although only sixteen colours displayed on screen. £50 – buyer collects or pays postage. Phone (0453) 811317 after 6pm.

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Atari STFM, good condition, still boxed, £450 worth of software inc. Falcon, Degas Elite. Worth £750, sell for £240. Quick sale, bargain or best offer, Richard Kemp. Write to: 4B Currents Lane, Harwich, Essex CO12 3DE.

Amiga 500, plus 512K RAM, 1084S colour monitor, Tenstar Games Pack, ten full price games inc. Blood Money, Operation Wolf. Only 3 months old. £650 ono. Phone Pete (Jnr) on Kettering (0536) 520969 anytime.

BBC B with disk drive and Solidisk DFS and two meg 128 for £300, tape recorder and games £50, two meg 128 only £50. Phone 01 556 7618 (eves) London area only. Excellent condition.

CBM 64c, C2N datasette, two joysticks, mouse, over 200 games and loads of mags. All in excellent condition only £150 ono. Phone (0924) 272915.

Atari 520 STFM, mouse, 2 joysticks including Quickshot II Turbo, $185 of software including Falcon, Virus, Hostages, Dungeon Master, Barbarian II, SDI, Super Hang-On, WEC Le Mans, many magazines. Everything boxed and in immaculate condition. Sell for £250. Phone South Wales (0633) 420727.

BBC B with 5.25" drive, DFS, mouse, datacorder, joystick, external Zif socket, Watford speech synth, Watford ROMs, lots of software on tape and disk, all books and leads £300 ono. Phone (0737) 814163.

C64 games. All original. Price for some games originals £25.00. Maximum price for game £6.00. Titles include Ultima IV, Stealth Fighter, Renegade. SAE to Philip Hailstone, 19 Shrivenham Road, Swindon, Wilts. Disk and Tape.

Loads of Commodore 64 games on disk and tape. All cheap. Send SAE to W. Hurr, 71 Nunnery Drive, Thetford, Norfolk IP24 3EP. Be quick! All games for sale are originals. Games include Micro Soccer, Run The Gauntlet, also several compilations.

Atari 520 STFM, joystick, only 6 months old. Over £1000 worth of software including many new titles. Will accept £400. Call Jeremy on 0279 417736.

New Amiga games, Forgotten Worlds, Elite, Op. Wolf, Space Harrier, Denaris. As new £12 each or £55 the lot. Phone Matthew on (0656) 767814 after 5.30pm. Hurry!

Amiga originals, Cosmic Pirate, Captain Blood, Starglider II, Galdregon, Bard's Tale, Moonmist, Shadowgate, Trinity, Seastalker, Teen Queen, Virus, Faery Tale, Mindfighter, Alternate Reality, Spellbreaker £100. Phone 076 687 594, North Wales.

Sega cartridges £16 each, 35% cheaper, Rocky, Outrun, Afterburner, Great Golf, Shinobi, all boxed and as new. Also Rapid Fire unit, boxed, £4. Phone 0623 25037.

Sega System: Eight top arcade games, 3 joysticks, magazines, all good condition, machine in excellent condition and perfect working order. Worth over £200, will sell for £130. Phone 0883 715768 and ask for Jon Williams.

Sega console plus eight games including Out Run, Double Dragon, Wonder Boy 1/2, Alex Kid, Action Fighter, Hang On and Astro Warrior. Worth £250, will sell for £150. Tel: 01 801 5948. Good condition.

Atari 520STFM, 1mb disk drive. Excellent condition. Silica package worth £200+, 11 games worth £265 contain Falcon, Forgotten Worlds, Robocp. All worth £770, sell for £260 ono. Phone Nick on York 765761.

CBM 128, two tape decks, £250 of software, joyball, mags. Games include Batman, R-Type, all originals. Worth £480+, will sell for £170 ono. Phone 01 550 5789. Great Bargain!! Hurry and pick up that phone!!! Any time, ask for Paul.

Amstrad 464, green screen monitor, Cheetah Mach I joystick, £150 worth games including Barbarian 2 and Operation Wolf. 3 months old, for £185. Bargain quick sale if possible. Phone Mrs Potts on (0782) 213 935 after 6pm.

Atari ST with software inc. Millenium 2.2 + 3D Pool, lots of others. As new. £200.00, buyer collects. 67 Derwent Street, Chopwell, Newcastle upon Tyne NE17 7HZ.

Sega system, six months old, excellent condition, includes seven games including Rocky, Wonderboy and YS, which on its own costs £30, two control pads. Worth £225, sell for £125. Tel (0375) 380946 after 5pm.

Speccy for sale. Many extras, joysticks, popular games. Will split. Contact Anna on (021) 558 3365 after 8pm.

Commodore 64 with 30 games and magazines £100. No offers. Phone 0702 343700.

Amstrad CPC 6128, built-in disk drive, £200 of disks, cassette recorder with leads, and games, joystick, 6 months old. Worth £650, will sell for £350. Tel: (0287) 32119 between 4pm and 9pm weekdays only.

CBS Coleco Vision games and games accessories. Mint condition, boxed, over 30 titles. Lists from Alan Chapman, 65 Lime Grove, Doddinghurst, Essex CM15 0QX. Tel: 0277 822 793.

Sega games all boxed in mint condition from £7.00 each. Lists from Alan Chapman, 65 Lime Grove, Doddinghurst, Essex CM15 0QX. Tel. 0277 822 793 before 8.30pm.

Amiga A500 plus memory expansion, 1084 monitor, over 80 games, including Dpaint 2/3, Sculpt 3D, Videoscape 3D with Animation, was £2100 including software and hardware, will sell for £1100 ovno. Tel: Medway (0634) 714531, ask for Karl.

Atari 520 STFM, boxed, 18 months old + £800 of software, all originals + 20 PD disks + Comp Pro joystick. The lot only £300. Tel: Paul 01 514 3588 after 6pm.

Amstrad CPC 464, colour monitor, disk drive, Multiface 2, speech synth., joystick, plenty games on tapes and disks. Very good condition. Include computer desk. Only £200 for quick bargain sale. Please tel. 0823 252615 every evening. (Won't split, cash please).

C64 with 1541 disk drive, 1701 colour monitor, two data cassettes, two joysticks, over 200 original games disk and cassette. £600 ono. Call Mad after 6pm. Tel: 0271 883155.

PENPALS

Commodore 64 user wishes to swap hints etc. I have the newest stuff on disks. Send complete lists to Jason Lancaster, 17 Collins Street, Heidelberg Heights, 3081 Victoria, Australia.

ST contacts wanted. Write to: Gareth Keyes, 4 Glanmor Crescent, Newport, Gwent NP9 8AX.

YOH! Alien life form ere! Contacts wanted in the UK and around the world to swap demo's, tips etc. Contact Alan on 091 2647333 or write to 98 Grange Road, Belmont, Durham, England DH1 1AQ. Coders also wanted. Greets Zappa Saga.

Amiga contacts wanted round the world. Oh yeah, also Britain!! Write to Nik, 1 Downsview Road, St Helens, Ryde, Isle of Wight PO33 1YE, England. Hi to Mark and Julien!

MSX 1 or 2 pen pals with disk drives wanted all over the world. Also MSX2 hardware wanted. Allproducts considered. Write to Peter Jess, 58 Legacurry Road, Ravarnet, Lisburn, Co Antrim BT27 5LZ, N.I., UK. 100% reply but only disk users.

ST contacts wanted from all over the world, All latest stuff. 100% reply. Write to Dave, 116 Molyneux Drive, Prescot, England.

Amiga contacts wanted. Write to Baz, 2 Guisbourough Drive, New York, North Shields NE29 8BT. 100% reply. No beginners.

Amiga user would like pen pals from all over the world. Reply guaranteed. If interested write to Jeff Cook, 45 Westbury St, Laisterdyke, Bradford BD4 8PB. Also C64 system for sale. Write for details.

Penpals for only £2 we match you up to your ideal penpal. Just send £2 to the address below. A penpal is assured . . . Write to PROS (Penpal), 1 Keble Close, North Wootton, King's Lynn, Norfolk PE30 3RU.

PC and PS/2 user wants pen pals round the world to exchange tips, programmes etc. Write to: Morten Innselset, 2900 Fagernes, Norway.

Amiga musicians, graphists and many more!!! Want contacts like them. Send demos, lists, disks or anything. All letters answered. Write to Ignacio Zurutuza, Miraconcha 2-4A, 20007 San Sebastian, Spain. Leaving my country in September, so hurry up!!

ST contacts wanted to swap hints, tips and cheats. 100% reply. Please, please write to Jason Bradwell, 157 Crosby Road, Grimsby,

South Humberside DN33 1LY. I have just bought an Amiga. Anyone have any hints, tips?

Amiga owner seeks pen pals to swap hints, tips etc. Fast reply guaranteed. Write to Brian, 8 Poplar Rd, Rayleigh, Essex SS6 8SL. Please send lists.

Amiga owner wants pen pals from all over the world to swap software and anything else for the Amiga. Send list to Mark Hunt, 59 Hood Close, Croydon CR0 3SR. Fast reply guaranteed.

Amiga contacts wanted from all over the world, fast reply guaranteed 100%. Write to Zulf, 100 Walnut St, Blackburn, Lancs. BB1 5NU, UK.

Amiga contacts – fast reply assured. Scribbles and lists to: The Survivalist, 4 Compton Ave, Tilehurst, Reading, Berks. RG3 5LH. Hi! Quasar, Bobbie, Dr Stein and Darth Vader! New user group needs coders to help with demos!

Atari contacts wanted worldwide. 100% reply guaranteed. Write to Mark Nicholl, 18 Castleplace, Castlecaulfield, Dungannon, Co. Tyrone BT70 3PL, N. Ireland.

Seeking – Contacts in the UK. + USA people wanted badly. Write me now: 15 Conningham Road, London NW11.. Latest present!! – This is a lamer free zone - Hurry up!

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Nintendo owners. At last a club that caters for you! Cartridge hire (over 150 titles – mainly import), monthly newsletter, plus many other advantages. Write now (SAE) for details: Klub Ikarus, 17 Leander Road, Wollescote, Stourbridge, West Midlands. Phone: (0384) 892423.

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Amiga music PD and 3.5" DS/DD for sale, to swap Amiga hints. For FREE info send SAE to: H.H. Cheung, 1 St. Andrews Grove, Harrogate HG2 7RP.

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'I have watched with disgust as slowly but surely your mag has turned into another computer magazine that is geared towards the fantasies of naive schoolboys'
...writes Samantha Brydon from Nottingham. This month she gives her view on the current spate of sexist games and attitudes in the computer industry, and wins herself this month's £50 worth of software

The Games Machine STAR LETTER

Living in a fantasy

Dear TGM
I am a female reader (yes you do actually have these!) and have watched with disgust as slowly but surely your mag has turned into another computer magazine that is geared towards the fantasies of naive schoolboys.

No, I am not a raving feminist and yes I have a brain and own a computer. Indeed, I was upset over the censoring of *Angel of Death*'s packaging because it was a good drawing. However, I did not expect you to then go on to list other censored covers or hear about the 'offending nipple' (yet again) in *Game Over*. Clearly this is all geared to the majority of male readers.

Yes, I do realise that the majority of readers are male, yet this is hardly a surprise when one looks at the stereotyping within computer games. Of course, this is not your fault but then you go on to print as a star letter Dominic Andoh Jnr's comments on harmless fun, complete with a picture of a woman in bra and knickers. What this boy doesn't seem to realise is that the games he quoted — *Hollywood Poker Pro, Leather Goddesses* (I mean!) etc — just verify the argument that there are enough of these scenes around without you making comments such as 'and what a foxtress she was, smurp!'.

I find your argument that *Vixen* wasn't exploitative ridiculous. She was the heroine, but basically it was just another stereotype of the D-cup blonde. Luckily for me I have a boyfriend, who after playing *Strip Poker* once (we both did) commented that it seemed unfair that whilst male tastes are catered for female tastes are not. In future I will not be buying your magazine until you have anything decent or worthwhile to say.

I realise that this is not the first letter you have received in this line, yet perhaps if you and the computer industry catered for more than the male audience then the only letters you received from girls would perhaps be more frequent and positive.
Samantha Brydon, Nottingham.

We have no regrets in printing Dominic Andoh's letter. We've never received a letter so blatantly sexist as his, and felt it was worth printing to see what everyone else felt. As a matter of fact we have received very little response — either because everyone is sick and tired of the whole debate, or perhaps they all agree with Dominic (perish the thought).

Thoughts of Mr Andoh's letters from the TGM offices ranged from 'pervert' to 'well, at least he has the courage to admit it'. Sadly, the computer industry is reflected to the outside world through its advertising — and like the car industry is aimed at egotistical and sexist males. If you stand in a computer shop for a couple of hours you soon get an idea of what a real software buyer looks like — an everyday NORMAL person (and usually male — at least the ad men have THAT correct). We would all welcome more women in the industry, and not just in PR bimbo positions.

Seen any games from female programmers recently? Not likely. In fact they seem to be too sensible for that and stick to graphics, like the superb Dawn Drake at Ocean. Even the magazine industry is taking time to adjust. And it's not the fault of the employers, women often seem to like being pigeonholed in certain jobs. Around 90% of freelance articles offered for TGM come from blokes. In fact we've only received one from a woman in the past four months: Ruth Pracy, who's just started the hilarious Idiot's Guide to..., this month featuring Marketing People (PR people).

Ladies, if you want a more balanced coverage, it's up to you to prove to the computer industry, like Samantha has, that YOU ARE out there, and want some service.

Recycled software

Dear TGM
Whilst listening to the radio not long ago, I happened to hear a short report on a subject which, in my opinion, has particular relevance to the software industry. It concerns the destruction of the world's rain forests. I was astonished when it was revealed that a staggering one million trees are cut down each year to produce the cassette/CD inlays and record sleeves for all new albums and singles each year. So in response to this appeal, artists are being asked to use recycled paper for their albums; which costs relatively little at today's prices.

The relevance in this is how many more trees are cut down to supply the necessary documentation for computer games? Surely the major software houses are aware of the problem, and if so, should be doing something about it. As I, and I'm sure a lot of other computer owners, are worried about the current environmental crisis, something must be done to help prevent the unnecessary destruction of the precious rain forests. As usual, it's up to the companies themselves. With enough pressure, results may be achieved.
JM Hurrell, Cornwall.

Well, software companies, what about it? And until they do, why don't TGM readers set an example by writing letters on recycled papers themselves (including yourself, Mr Hurrell!).

Thanks for 8-bit

Dear TGM
Thank you for having equal 16-bit and 8-bit reviews. Most magazines are dominated by the 16-bits now. Thank you.
Colin Stanton, Essex.

Well, there's no doubt that TGM leans slightly toward 16-bit computers. However, we haven't forgotten that there are more 8-bit computer owners out there than any other.

More PC games

Dear TGM
In Issue 20 I saw the 'brilliant' competitions that you did. Brilliant, huh! Why in the *Astaroth* competition did you only have the game available in anything but the PC? I would have liked to win the video recorder, but what if I only got a runner-up prize? Where would that put me then.

On the second competition (win the Porsche 959) I would have loved to win the top prize, but again I already have a copy of *The Duel*. Should I have entered it anyway and won another copy of *The Duel* (which is wicked!)?

On the third compo, I hear *Blood Money* is coming out for the PC, but how are us PC users meant to earn a copy if we can't even enter the competition?!



Please, in your wicked mag, try and review more software (games, art/animation, music, etc) for the PC and compatibles.
Greg Wise, Basingstoke.

It's very difficult to find a popular game on all formats to base a competition around. Fact is that Astaroth *is only available on the ST and Amiga (no 8-bits either), and it was possible to win an A1 poster and Carrie, the book (without even having a computer!). As to winning another copy of* The Duel: Test Drive II, *well, it's like that for everyone!*

Although the ST and Amiga are TGM's major 16-bit computers, we are always looking at the growing popularity of the PC, and changing our coverage accordingly. Unlike the States (where the PC takes 50% of all software sales), the UK still views the PC as a business machine, basically because most people have only been able to afford cheap Amstrads with poor graphical capabilities and laughable sound. In the States you can pick up a decent machine for the same price as an Amstrad over here, therefore people bought them for games too.

In the UK we tend to value money much more than folks in America (big is beautiful in the States). And the Amiga and Atari ST are unbelievably good value compared to the PC. But, as you will start to become aware, TGM is beginning to cover more and more aspects of the PC. Issue 20's Indiana Jones Preview Special *showed PC screens, and the Controversy column was on the PC's viability for games. There's also the normal coverage of PC games, and Toolbox regularly features PC gimmicks. This issue's feature on the Parsec graphics interface is applicable to the PC as much as (probably more than) any other 16-bit machine. We've also got a few PC sound features lined up. PC owners, keep your eyes and ears open for coverage in TGM.*

No Amstrad action

Dear TGM
I am afraid that this is a letter of complaint. Why is it that you neglect 8-bit computers in your magazine? All right I admit that 16-bits are more advanced than 8-bits, but the majority of people in Britain own the latter. Every month I open my magazine and find page after page of reviews on 16-bit games with perhaps (with the aid of a magnifying glass) one or two tiny reviews on 8-bit games. Unfortunately these reviews have no pictures of the game graphics, no description of the games plot and a naff percentage mark at the end of it.

For example just look again at your review of Hewson's *Stormlord* on the Amstrad CPC (TGM 019) and you will find that you printed no pictures, didn't say anything of the game plot and gave it only 84%. I happen to own the game, and the graphics and gameplay are the best I've seen on the Amstrad. In fact I was not the only person to share this view, many other major computer magazines gave *Stormlord* a percentage over 90 and wrote large reviews on the game with plenty of screen shots.

Do you at The Games Machine headquarters actually play the 8-bit games or do you just read what's on the back cover and base your review on that? Perhaps you should call your magazine The Amiga and ST Games Machine as so much of your magazine is full of 16-bit games reviews, playing tips, and art and business packages. If you reviewed more 8-bit games, of which there are plenty about, perhaps you would sell more copies as more 8-bit gamers would buy your magazine.
TM Vant, Essex.
(PS: I own an Amstrad CPC 464 computer which I think is absolutely brilliant.)

Well, you seem to have a lot of facts VERY wrong. As a magazine that has sister Spectrum and Commodore dedicated magazines, we see ever single bit of software that's available for the MAJOR 8-bit owners. But we also review every single bit of Amstrad software that we receive. However you don't seem to understand the way the TGM review process works. The 'review' of Stormlord *that you refer to is actually a Version Update. Version Updates only state the differences between computer formats, and their own success on that format. Above each Version Update is a list of ratings and issues for the reviews of other formats, plus the issue of the main review (why repeat the storyline, it's the same on all formats).*

Stormlord's main review was in Issue 19, in which a whole page was devoted to the Spectrum version (because it happened that that was the first version available for review). It's a fact that the Amstrad version is always out after the main formats (PC owners suffer the same problem). It seems that your gripe has more to do with the Amstrad versions always coming out after everyone else! I suggest you buy a more popular computer if that's the problem! (Like an MSX!)

Programmers BEWARE!

Dear TGM
Software companies beøhold: It is Mechanical. It is Biological. It is... BORING!!!

If I see one more Goldrunning, Menacing, DNA fighting, Hyperforcing, Sky-Raying, Xenoning, Sidewindering, Fusioning, Zynapping, Star-Goosing or Hellbending vertical/horizontal scrolling mumbo, jumbo, trash-bash, rubbish I'll R-Type your rear ends!!

Be careful all unoriginal programmers — this time I'M BEHIND YOU!!! (And my Bazooka doesn't fire plasma lasers...)
Ofir Galmor, Israel.

Go more for the real thing, do you?

Best in US

Dear TGM
I have recently started reading TGM, after spotting it at a news stand alongside the usual collection of American computer magazines. All I can say is, what a difference! Not only can I read about (and order by mail) software not available in the US, but I can now make informed decisions about software purchases. This is because NO American computer magazine ever publishes anything even resembling a negative review, probably for fear of losing advertising revenue. Also, the American magazines contain only a few reviews per issue, and many times the reviews are of games that have been available for months.

In issues of TGM (and the other Newsfield magazines available here), I have seen advertisements for software on one page and negative reviews of the same software on another page... what a concept! Impartial, objective

reviews!

Yes, the British magazines are more expensive than the American ones, but it is worth it. I no longer have to waste money on lousy software, with my purchase based on the gushing reviews written in American computer magazines. I always had the feeling that England was good for something besides Monty Python reruns!

Leslie D Blake, New Jersey, USA.

Leslie, I think you're going to be even happier from next issue (23). TGM will be covering American activity in a BIG way, with a whole section of the magazine devoted to the subject four times a year.

Home readers will also benefit from this special section as all the things covered will eventually reach the shores of the UK. They'll also be some free gifts to go with it. Read about if first in TGM! (More information on page 98.)

Something that should also please you, as well as many other readers, is that Virgin have recently picked up the rights to produce a Monty Python game.

The Ed writes

On the subject of JM Hurrell's letter (previous page) of recycled paper, I thought I would add my own comments. First I'm not against eco-matters, greenery or anything of the kind, but I think it's important that such matters don't become swamped in emotional hype (such as BBC Radio One's programmes often did) and therefore cloud some facts.

Recycled paper is NOT cheap — at the moment — simply because there isn't much production. Also, to remove the old ink, far more bleach is used than in new paper manufacturing — and where do you think all that bleach ends up...?

The biggest area of concern is the tropical rain forests which produce hardwoods used in furniture, sea walls and many other things. Printing paper is made from very fast-growing (and replaced) light spruce woods, and almost every European magazine is printed on paper made in Finland from such trees. Let's be eco, but not daft. Any comments?

Roger Kean, TGM Editor

The good ship TGM

Dear TGM

Years ago when the 'My computer is better than yours' debate was still in its infancy there was another argument that used to rattle through the computer magazines of that era (inch thick jobs, full of type-in listings). That argument was based on the way that the specialist Commodore and Sinclair magazines were becoming more and more like comics in both style and appearance.

Well, here we are some five years later and it only takes a brief glance at Sinclair User or Zzap! 64 to realise that those predictions were true. Each page is full of badly drawn illustrations of stick men saying naff jokes. It is impossible to read a paragraph of text without having to read some pathetic comment from the magazine's editor, usually written in brackets and followed off by an exclamation mark. Unfortunately this is beginning to happen to some of the newer multi-user magazines: namely Computer and Video Games, ACE and The One.

C+VG has always been a big comic so it was inevitable that The One would follow the same dusty path. When EMAP took it upon themselves to purchase the once-excellent ACE, they not only blessed it with the same morons who already wrote for The One and C+VG but they also included their own unique technique of printing half a review and forgetting to print the rest, or maybe printing a monochrome Spectrum screen shot next to the preview of the latest 16-bit blockbuster.

This, however, is not a letter totally full of gloom because sailing through the mists of these 'childish' magazines comes the good ship TGM. When TGM was originally



launched you too were packed full of the stick men and Mercy Dash was nothing short of embarrassing (Cutie poo, I must admit, was amusing). After a few editions however you soon pulled yourself together and became the quality entertainment magazine that this ever-changing market needs. You write your reviews with good humour but still maintain the style of writing that the potential buyer needs. Your news coverage is also well laid out and is straight and to the point. I believe that the one thing that singles you out from the rest are your excellent features. They make a really good read and you also make good use of the photographs and illustrations (I loved the article on Hewson).

I hope you carry on being the oasis in the desert of trashy magazines and I wish you good luck on your lone crusade for quality entertainment publications.

James Coldwell, Essex.

Thanks for all the praise, and very incisive comments on the computer magazine world. As most users of 16-bit machines (which TGM is slightly biased towards) are generally older than 8-bit users (go in any software shop and you'll see what we mean) so is TGM in its presentation of features and reviews. As far as we're concerned readers don't want some flowery review saying little more than the inlay, with a comment about as decisive as Neil Kinnock's election manifesto. Money's worth as much to us as it is to you, so we don't make our choices for Star Players/Update lightly — that's why we often underrate games in some people's eyes.

Lies, damned lies!

Dear TGM

It was with some disquiet that I read, in the latest issue of The Games Machine, the imputations and insinuations of your writer Nick Roberts on the subject of my Coconut Capers T-shirt (Controversy, Issue 21).

While it is true that this T-shirt has been a frequent and much-trusted companion over the years, and indeed has a small sweat stain as testimonial to its sterling service at last year's PC Show, I utterly reject the suggestion that I have shown it any favouritism or, more seriously, that we have any unnatural relationship. There has never been anything between myself and any of my T-shirts; I have nothing to get off my chest there.

Furthermore, Mr Roberts' article ignored, surely not through ignorance, the enormous debt which I owe my Thalamus T-shirt, without which so much of my life and work would have been so much more arduous and which, indeed, is by my side as write.

Yours in favour of the right to bare arms.

Barnaby Page, Media Week Limited, London WC2.

Perhaps one point Nick Roberts did overlook, Mr Page, is that, strictly speaking, any freebies received from a software house by an employed member of staff remain the property of the magazine said goods were sent to (and in effect are only 'loaned' to staff during their tenure). Therefore, may we please have back by return of post: a Leisure Suit Larry towel, and IBM puzzle toy, your trips to Madrid, Frankfurt and Amsterdam, some Ocean wine, an Oracle propelling pencil....

WIN £1000 CASH!

We're giving away £1,000 CASH — it could be yours if you're this month's GAMES MASTER!!

WOTTA LOTTA DOSH!!

You're in the running for £1,000 when you dial

0898 555 080

YES!! TGM is giving away £1,000 in straight CASH and all that stands between you and an improved bank balance is a set of ten QUESTIONS (and the luck of the draw)!!!

This is the second TGM GAMES MASTER Jackpot game. We're searching for this month's GAMES MASTER — the person who can answer ten software questions and have enough games-playing luck to have their answer pulled out of the golden-lined sack first on September 20.

The questions are all related to the games featured in this month's issue.

Just pick up your phone and dial 0898 555 080 and you'll hear the questions read out, along with three possible answers. As you listen to the three possible answers tick the box on the entry form below which you think corresponds to the right answer — A,B or C.

When you've answered all TEN questions, complete the form with your name, address and phone number and send it to: GAMES MASTER JACKPOT GAME, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB. We'll put all the entries in a sack and the first entry pulled out at 9.30am on September 20 wins £1,000! It could be you!!!

TGM's Games Master Jackpot Game is produced in conjunction with Chatterbox Ltd. Calls cost 25p per min off-peak, 38p all other times. If you don't pay the 'phone bill — please ask the person who does before making this call — okay? Standard competition rules apply.

£1,000 JACKPOT ENTRY FORM

1. A B C
2. A B C
3. A B C
4. A B C
5. A B C
6. A B C
7. A B C
8. A B C
9. A B C
10. A B C

I'm incredibly desperate to win £1,000 cash, so I've ticked what I hope are the right boxes in answer to the TGM Games Master Jackpot game...

Name ....

Address ....

.... **Postcode** ....

Telephone number ....

GAMES MASTER JACKPOT GAME, TGM, PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB

Information and tips!

Printed here are the numbers which connect you directly to the TGM Hotline services. We've got 160 lines, open 24 hours a day, so don't worry about the service being engaged.

Grab the latest news on what's happening on the TGM News Update line **0898 555 088**.

Games players are also well catered for... Robin Candy is working overtime and getting all the hottest tips on the latest games. Need help, ring the TGM Tips Hotline **0898 555 087**

GUIDE TO COMPUTER SYSTEMS

8-BIT

ACORN BBC

NOTE The BBC has appeared in many models: BBC A, BBC B, BBC B+, BBC Master Series and BBC Master Compact. Only the last two are now available. Listed below are the specifications for the BBC Master Compact.

Despite its name, the BBC range has always been produced by Acorn (who now do the Archimedes). But when the British Government decided to put computers in schools, they called on Auntie Beeb to provide a specification for manufacturers to work to — and Acorn got the contract.

PRICE Master 128 £458.85; Master Compact £396.75 on its own, £417.45 with TV modulator, £458.85 with mono monitor, £626.75 with colour monitor.

MEMORY 128K.

PROCESSOR 8-bit 65C12.

RESOLUTION Several modes, ranging from 160x256 (16 colours onscreen) to 640x256 (black and white).

SOUND four-channel six-octave output through internal speaker. However, with an add-on MIDI interface the BBC series has become popular with a number of professional musicians; bands such as Erasure and Bros have been known to use the BBC to as a MIDI controller.

VIDEO Composite Video, RGB, optional TV modulator available.

SOFTWARE FORMAT Cassette and disk.

PORTS 50-way expansion port, joystick/mouse port, Centronics parallel, PCB Shugart standard disk drive interface.

SOFTWARE There's a vast range of educational software and applications, because until recently the BBC was the most common computer in British schools (it's now being overtaken by PC-compatibles and, occasionally, STs and Amigas). A few games still appear.



KEY

■ *PRICE* (usually the recommended retail price), including VAT. Computers are being sold with 'bundles' (software, joystick etc) more and more often, and prices change frequently. Sometimes particular high-street shops offer their own bundles, so shop around and watch TGM for advance reports.

■ *MEMORY* Don't be fooled by demos or publicity which show an apparently cheap machine running fantastically sophisticated software. Many computers — the ST, for instance — come in different versions with different memories, and because of chip prices, memory is currently very expensive. This is particularly important in packages using digitised graphics or sampled music.

Memory is measured in bytes (1 byte= number of bits machine is, eg 16-bit), kilobytes (1K= 1024 bytes), or megabytes (1Mb= 1,048,576 bytes).

A few expensive models have hard disks — literally that, hard disks built into the computer. They're useful for storing frequently-used applications software, because you can load from them much quicker than from a disk or tape drive ('external drive'). But for gamers, they're really a waste of money.

■ *PROCESSOR* The important aspects of a processor are a) word length and b) speed. A long word and high speed mean complex graphics can move very quickly (and number-crunching in applications like databases is speeded up too). Word length is usually 8, 16 or 32 bits — a 16-bit machine can process twice as much information at one go as an 8-bit machine. Speed is usually measured in megahertz (MHz), which means 'million things done each second'.

Most personal computers have one processor to make the software do its stuff; some, like the Amiga, also have 'dedicated' processors to handle graphics and sound, which free the main processor to do other things (this is called multitasking).

■ *RESOLUTION*, or the number of pixels on the screen. High resolutions mean more detailed, realistic graphics. Resolution is measured with two numbers: y number of pixel columns across the screen x number of pixel rows down the screen. However, high resolutions can generally use fewer colours together on the same screen, because they take more memory. Under this heading we've noted how many colours are available onscreen at any one time.

■ *COLOUR PALETTE* the total number of colours available on the computer (though not at the same time!).

■ *SOUND* The important factors here are channels (the number of different pitches that can be played at a time) and pitch range (measured in octaves — an octave is the distance from, say, one C to the next on the piano).

■ *VIDEO* Most games computers can be connected to the TV or to a monitor, via a lead which plugs into a port.

Today, most monitor output is the high-quality RGB standard. But some older machines (such as BBC and MSX micros) use composite video output, which doesn't allow such high resolution.

■ *SOFTWARE FORMAT* Software comes on tape, disk, ROM cartridge, ROM card, or CD ROM. Generally this isn't a factor in purchasing — if the machine is important enough, people will produce software for it. However, there are a few considerations...

Tapes are notoriously slow to load (and less reliable than disks). Amstrad's 3-inch disks are used only on their CPC, PCW and Spectrum +3 models, which means graphics, words etc stored on them cannot be used in another machine without communications software and hardware.

And if you buy a PC-compatible, try to go for one with a 3.5-inch disk drive — 5.25-inch disks are fast becoming unpopular, and the software supply in that format may dry up.

Also, if you're doing more than playing games, make sure the machine can format large-memory disks (all blank disks must be formatted before use). It could be frustrating to write a 450K masterpiece if all you've got is an Atari 520 STFM — yes, the memory can handle it, but disks formatted by this model can only take 360K of data.

Blank disks usually cost around £3.

■ *PORTS* Joysticks, printers, modems, mice, MIDI music equipment, extra disk drives etc all plug into special ports. Make sure the model you choose has all the ports you need — and where salesmen are concerned, never take 'probably' for an answer.

■ *SOFTWARE* It's obvious but... that incredibly fast, cheap new wonder is useless unless there are some games to run on it!

AMSTRAD CPC

PRICE The CPC464 (built-in tape deck) is £199 with green-screen monitor or £299 with colour monitor. CPC664 models are no longer produced. The CPC6128 (one built-in external disk drive) is £299 with green-screen monitor or £399 with colour monitor.

MEMORY CPC464/CPC664 64K, CPC6128 128K.

PROCESSOR 8-bit Zilog Z80, 4 MHz.

RESOLUTION 160x200 (up to 16 colours onscreen), 320x200 (4 colours) or 640x200 (mono).

COLOUR PALETTE 27 colours and shades.

SOUND three-channel eight-octave through built-in speaker, but stereo output is available. Sound quality is reminiscent of early arcade machines. No MIDI ports.

VIDEO Monitor supplied with all models. RGB sync output.

SOFTWARE FORMAT Tape or 3-inch disk. Disk drives format to 180K on each side.

PORTS CPC464 has Centronics

PRESS ANY KEY

parallel, 6-pin DIN RGB with sync luminance, 3.5mm stereo socket, joystick, PCB extension port for disk drive and RS-232 serial interfaces.
CPC664/6128 have Centronics parallel, 6-pin DIN RGB with sync luminance, 3.5mm stereo socket, joystick, cassette port, PCB extension port and second disk drive port.
SOFTWARE Most Spectrum and C64 games are converted to the CPC but they tend to run slightly slower. The CPC6128 is capable of running CP/M so a good selection of business packages are available.

COMMODORE C64/C128

PRICE C64 is £129.99 including dedicated Commodore cassette deck and some free software. C128D including disk drive £399.99.
MEMORY C64 64K, C128/C128D 128K.
PROCESSOR C64 8-bit 6510 2 MHz, C128/C128D 8-bit 6502 plus 8-bit Zilog Z80, 4 MHz.
RESOLUTION C64 320x200 (eight colours onscreen, but attribute system limits the number of colours that can be placed adjacent to each other). C128/C128D in 128K mode has a resolution of 640x200.
COLOUR PALETTE 16 colours and shades.
SOUND three-channel eight-octave sound chip which outputs through the monitor/TV. The 6581 SID chip (Sound Interface Device) is one of the most sophisticated sound chips on a 8-bit computer.
VIDEO TV ports on all models. C64 has a composite video port, C128/C128D both have RGB ports for an 80-column display.
SOFTWARE FORMAT Tape or 5.25-inch disk (C128D only). Commodore also manufacture two external 5.25-inch drives — the C1541 (formats to 140K) and the C1571 (formats to 340K). Blank disks very cheap, but easily damaged.
PORTS RGB (C128/C128D), composite video (C64), two joystick ports, cassette, TV, expansion port, serial (non-standard), user port.
SOFTWARE The Commodore 64 is an old computer with years' worth of games and utilities, many imported from America. Many users, so new software likely to flow for some years yet. Z80 chip on C128/C128D allows it to run software written for CP/M operating systems.

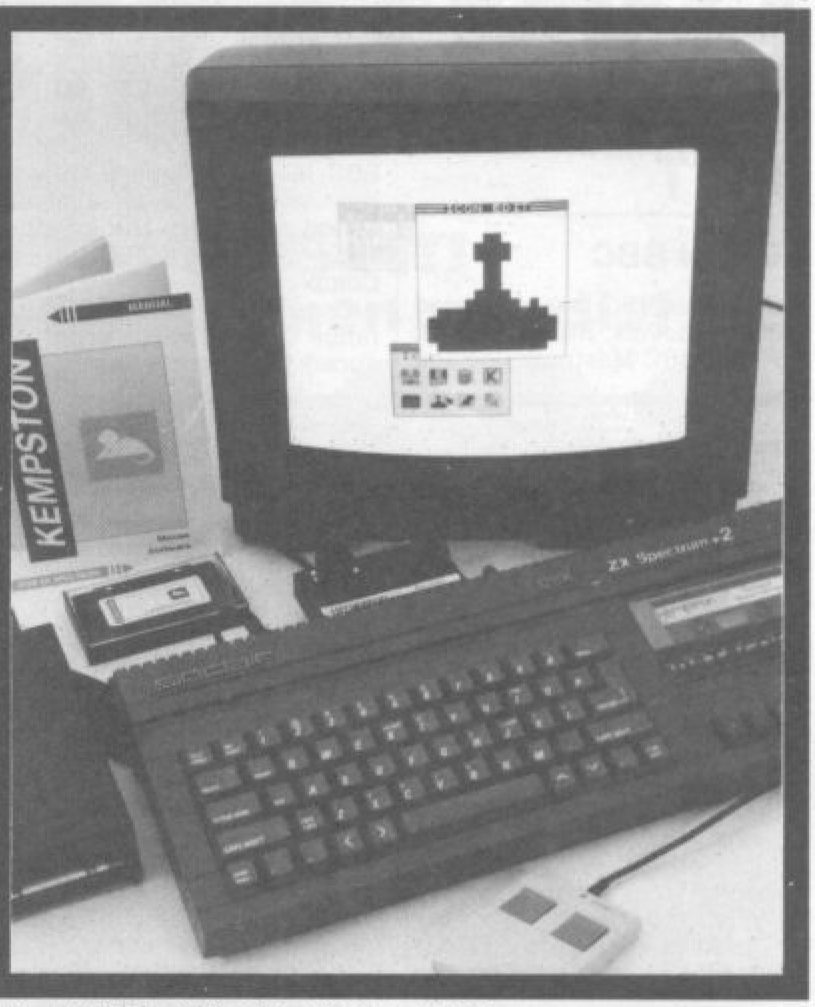
MSX-II

NOTE MSX and its successors, MSX-II and MSX-II+, are not brand names of actual machines — MSX is a compatibility standard, or a set of rules for designing computers, developed by Japanese inventor Kay Nishi in the early Eighties.
The situation is a bit like that of PC-compatibles: many manufacturers have produced MSX machines, but basically the same software runs on them all. The most famous MSX manufacturers are Sony.
PRICE Prices start from about £340 and rise according to model. The MSX-II+ (see TGM014 news) is still not officially available in Britain.
MEMORY Models range from 64K to 256K.
PROCESSOR 8-bit Zilog Z80A, 3.57 MHz.
RESOLUTION Various modes: 512x212, 256x212, 512x424 (interlace).
COLOUR PALETTE 256 colours and shades. The MSX-II+ has 19,268 colours!
SOUND three-channel eight-octave sound chip which outputs through monitor/TV.
VIDEO TV port and SCART plug for RGB monitors.
SOFTWARE FORMAT Tape, ROM cartridge or 3.5-inch disk.
PORTS Varies according to model but most include TV, Centronics parallel, two joystick ports, MSX expansion port, DIN plug to connect to cassette recorder, and cartridge port.
SOFTWARE Plenty of games and applications are available, but don't expect to find much in the high street. The most well-known MSX supporters in Britain are Konami, who run a users' software club — (0626) 56789.
MSX software is upwardly compatible — that is, software written for the MSX will run on the MSX-II and the MSX-II+ (but not vice-versa!).
The MSX machines have the same BASIC programming language (called MSX BASIC) and the same Microsoft operating system (MSX-DOS).



SINCLAIR ZX SPECTRUM

NOTE The Spectrum, now manufactured by Amstrad, has appeared in many models: 16K, 48K, 48K+, 128K+, +2, +3 and +2A. Only the last three are now available new.
PRICE +2/+2A with built-in tape deck costs £139; +3 with one built-in external disk drive, light gun, joystick and six games £199. Other models available very cheap secondhand.
MEMORY Mostly obvious from names! +2/+2A and +3 have 128K.
PROCESSOR 8-bit Zilog Z80, 4 MHz.
RESOLUTION 256x192 (eight colours onscreen, but only two colours can be used in any given 8x8-pixel block. This often causes 'colour clash' in games that use a lot of colour.)
COLOUR PALETTE 8 colours, can be increased to 16.
SOUND 128K+, +2, +2A and +3 have three-channel output via monitor or TV. 16K/48K/48K+ have one-channel output via built-in speaker. +3 has built-in non-standard MIDI port.
VIDEO All have TV port. 128K+, +2 and +3 also have RGB ports.
SOFTWARE FORMAT Mostly tape. Early models load from ordinary cassette player (extra cost), +2 has built-in tape deck. +3 takes 3-inch disks, though many people prefer to use tape because of disk-loading problems; one built-in reversible single-sided external disk drive can format disks to 180K each side.
PORTS 16K/48K/48K+ expansion port, two 3.5mm jack sockets to connect the Spectrum to a tape recorder and a TV port. 128K+ has expansion port, TV port, Vero phone connector for MIDI/RS-232 serial, two 3.5mm jack sockets, RGB port, Vero phone connector for add-on keypad.
+2 has expansion port, TV port, RGB port and Vero phone connectors as 128K+; also two non-standard joystick ports and a 3.5mm socket for outputting sound.
+3 is as 128K+ and also has Centronics parallel printer port and port for second disk drive. Early +3s have two 3.5mm audio in/out jack sockets, later models have one which performs the same function. Also MIDI port on the later models.
The recently-released +2A is technically virtually identical to the +3, apart from the fact that it has no disk drive. On the outside, it looks like a +2 except that it's black, rather than grey. However, it has several serious incompatibility problems and will not work with many + add-ons.
SOFTWARE The Spectrum is the biggest-selling home computer in the UK and (at an informed guess) at least 2,000 games are available. Until the growth of 16-bit this year, most of the great classics were Spectrum titles — many still are. A wide range of utilities is also available, but the machine is inadequate for graphics work. Slow/unreliable loading and small memory cause severe problems with any data processing (eg accounting, word processing).
NEXT MONTH 32- AND 16-BIT COMPUTERS AND CONSOLES.



UNCLE MEL'S TRIVIA QUIZ

1) True or false, Activision's Cosmic Osmo is the biggest ever computer game.
2) What has Mick Fleetwood designed for the Atari Stacy laptop?
3) True or false, the Kurzweil image scanner interfaces with the Lotte Lenya voice chip and the Berthold Brecht word processor.
4) Where did the title of the sci-fi film Zardoz come from?
5) What is a CLUT?
6) What do you call a magazine that rips off Uncle Mel's Trivia Quiz and uses questions already published in TGM?
7) The on-board computer used during the first Apollo moon landing was as sophisticated as: a) Schneider Portable AT, b) Psion Organiser, c) IBM PS/2.
8) What software titles have been mixed into these toilet habits? BOTTIE PURRS, LO DEAD BOG RUN, PAN SPOT MAT
9) In what year was the soon to be relaunched Coleco Vison machine originally marketed in the UK?
10) Where does Wally Walrus come from?
11) What is unusual about the ROM data in the new hand-held from Franklin Computer?
12) Which country topped the 1988 league table for the number of home micros per head of population?
13) What do floppy disk manufacturers Parrot and a many-sided geometric figure have in common?
14) Which game packaging contains a surgeon's glove and mask?
15) In Return of the Jedi, who lives on the following planets, Tatooine, Dagobah, Endor?
16) What have Konix and the Boston Strangler got in common?
17) Who created Batman?
18) Why has the National Association of Computer Retailers changed its named?
19) What have Softek and the editor of TGM got in common?
20) What's the difference between the SAM Coupe and the Loch Ness Monster?

Answers

1) True, three million bytes. False, it's not a game.
2) The Hotz Box MIDI keyboard controller.
3) False, the Kurzweil interfaces with anyone who's got £11,000 to squander.
4) The WIZARD of OZ.
5) Colour Look Up Table.
6) The Dire Rectumy.
7) None of these, but the Psion Organiser is only marginally more complex.
8) TURBO ESPRIT, DOUBLE DRAGON, POSTMAN PAT.
9) 1979.
10) The New Zealand Story.
11) It contains two versions of The Bible.
12) Iceland.
13) They're both polygons.
14) Life and Death.
15) Jabba the Hutt, Yoda, the Ewoks.
16) Trouble with the electric chair.
17) Bob Kane.
18) Because they were fed up with being referred to as NACRD.
19) They're working for Peanuts.
20) Some people think they've seen the Loch Ness Monster.

COMPETITION RESULTS

ASTAROTH

Hewson Issue 20
Tom Gibbins, from Taunton, receives an Amstrad Video Recorder, a copy of Carrie on video, the game and a poster.
The ten runners-up, who each receive the book, a poster and a copy of Astaroth (or another 8-bit Hewson game) are: Mike Faraday, Aldershot GU23 8HR; Alex Harrison, Birkenhead L43 2JY; Darren Garbutt, Leeds LS9 6DS; Brett Patterson, Sheffield S2 5SB; Paul Hobbs, Southampton SO1 5RP; P Rushton, Market Drayton TF9 3DX.

DUEL DRIVING

Accolade Issue 20

The winner of a fabulous remote control Porsche is Steve Taylor from Norfolk. Congratulations, Steve!
GAMES MASTER JACKPOT
The Games Machine/Hotline Issue 20
The ever-so-lucky (and clever) winner of this month's £1000 cash prize is Brian Lee, from all the way up there in Aberdeen.



JOYSTICKS

De Gale Marketing Issue 20
The two winners of a Quickjoy Superboard joystick (complete with stopwatch!) are, H C Cheung, from the seaside town of Ramsgate, and David Coverley from Redcar.

SOFTWARE HITS

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An ~~Idiot's~~ Industry Guide to the ~~Software Industry~~ Idiots

BY RUTH PRACY

Part 2: The Marketing Peoplettes

Marketing peoplettes sell Other People's products. They don't really care what the product is _ airplanes today, earthworms tomorrow — so long as there's a market for it. If there isn't a market for it, they'll create one. That's their job. A Marketing Peoplette can sell anything to anyone, any time.

In the Old Days, of course, MPs didn't exist. Mankind somehow muddled along without them, acquiring things he really needed and could use.

No-one can say when the MPs appeared among us: their first tentative approaches to humankind were subtle in the extreme and carefully orchestrated by MP Infiltration (Operations and Espionage Divisions) backed up by MP Research & Development.

Marketing Peoplettes, you see, are not quite like the rest of us. In fact, they are entirely UNLIKE the rest of us. They come from a shadowy dimension that interfaces with ours somewhere along the borders of Reality. Marketing Peoplettes are incredibly envious of Reality. They would like to be Real too.

As MPs can be Real only so long as Real People believe they are Real, the discovery of Marketing gave them the chance they had been waiting for — Marketing being a business that demands its personnel to be as flamboyantly Real (they call it 'high profile') as possible. Even better, the games software industry was the answer to a phantom's prayer; and they seized on it with blood-red talons and high, schoolgirlish cries of glee (as designed by MP R&D). With that degree of chaos going on around them, no-one, but no-one, is ever going to notice that there are those among us who aren't, well, exactly US.

Because they don't actually exist in our dimension, their bodies when manifested in Reality are rather like smoke: one puff of wind and they blow away. MP R&D have put in a lot of time and effort to prevent this happening.

Totally dedicated to their work (after all, without it they would vanish), MPs appear mostly as females. R&D having discovered (through exhaustive analysis of the human psi-waves) that customers react best to females — it is believed that there is some correlation between this and the fact that most MPs' customers are male. They are all blonde, not, as you might think because Gentlemen Prefer Blondes, but because peroxide is the most efficient way of keeping their synthahair, which has an alarming habit of falling out in their customers' fingers, firmly anchored to their heads.

Brightly-coloured frocks are the order of the day — they attract attention, and the more attention an MP gets, the more Real she becomes. These frocks are worn TIGHT — actually to stop the MPs' bodies from floating off into the stratosphere every time the wind rises above Force One, but giving the added advantage of producing very positive psychic responses in male customers.

The MPs pour themselves into these frocks and then vacuum-seal them by a remarkable process which most human women (and men) would give their eyeteeth to discover. As tights are definitely OUT, less practised MPs cover all exposed limbs with a dark brown varnish, courtesy of R&D. Those who are really skilled at holding their shape wear stockings, a feat beyond most MPs (and many humans) because the suspender belt cuts through them like cheesewire. Their faces are held in place by liberal applications of make-up, applied with a plastering trowel and removable only by pneumatic drill. A few enterprising MPs, trying for the 'natural' look use R&D's varnish instead, not generally a good idea, since it tends to emphasis the flakiness of their synthaskin, which is forever peeling off.

MARKETING PEOPLETTE TYPE #1: The Executive

Distinguishing Marks

There is really only one sure way of telling one MP from another — their cars. Cars are THE status symbol among MPs, and give a cast iron indication of their placing in the MP hierarchy.

The Executive MP drives a Granada 2-litre GL. If she's been with her company for some time and has Proved Her Worth, she will have a car phone. If she's Proved Her Worth And Then Some, she will have a car fax. Very occasionally, she will have the Managing Director as well (this is known as 'insurance').

Habitat

The EMP has a nice little house somewhere in the suburbs, which she shares with two cats (special agents for MP Infiltration), a budgie, and an endless string of human males whose Reality noticeably decreases as her's increases. The smaller bedroom is devoted exclusively to clothes which she will cheerfully lend to less fortunate colleagues (dark glasses supplied) and the box room holds 47 pairs of shoes and three large shelves full of make-up and varnish (labelled Kwik-Tan).

At her office, she has a Very Nice Desk with an Extremely Comfortable swivel chair where she sits to do her nails. Her phone rings constantly and her human colleagues have been known to comment on the remarkable, almost magical, way her paperwork (of which there is vast quantities) gets down (not as magical as it seems — R&D send in the Special Support Squad every night to do it for her).

Behavioural Patterns

EMPs spend a lot of time at parties (often called Trade Shows), where they meet lots and lots of people and make lots and lots of friends, all of whom believe in them implicitly and do wonders for their Reality.

As befits her senior standing, the EMP has been given the best possible equipment by MP R&D. She can choose her personality from a wide selection ranging from Coolly Efficient through Bubbly to Delightfully Flustered. She has been provided with an impressive string of qualifications from Real human educational establishments, some of which she has actually attended, and has even been granted enough intelligence to be able to take an interest in computer games. EMPs who have Proved Their Worth And Then Some will even be able to PLAY the games they promote, and, in truly exceptional cases have been known TO PLUG THE JOYSTICK INTO THE RIGHT PORT. It is even rumoured, though this may be fallacious, that one EMP has mastered the concept of raster lines.

A typical EMP phone conversation will run like this:

To a Distributor: 'Helloooo, Sweetie. Cherub, I've go a Wonderful New Game for you. You'll love it. No, it isn't finished — but it's going to be released next week. Darling, I'd love to show it to you, but you know how it is... yes, it's got a bug. No, no, just a teensy one; a little hiccup with the player controls... a five-minute job, that's all. Naughty, that's what you said at the party. Mmmmmm... THAT party... Sweetie Angel, about that little favour you owe me... five thousand units of each format? Darling, that's wonderful. We must get together again sometime. Byeeee...'

To the Press: 'Oh, go on... give us a gold star. We haven't had one all year. Go on... I know you haven't seen the game, but it doesn't matter, really, it's wonderful. Yes, I promise you it is. Go on, give us a gold star, I'll be incredible grateful. It really is a fabulous game. Yes, of course it scrolls. No, the music isn't in yet, but it's going to be marvellous... yes, really. Oh, that's just what you said at the party. Mmmmmm... THAT party. Yes, it was, wasn't it? You will? Oh, that's fantastic. And 90% for the music? You're wonderful. We must do it again sometime! Byeeee...'

MARKETING PEOPLETTE TYPE #2: The WYSIWYG

Distinguishing Marks

If the WMP has Proved Her Worth, she drives a Sierra Sapphire. If she hasn't, she gets a Fiesta. Very occasionally, she will have to share a pool car, or does without one altogether (this is called 'telephone sales').

Habitat

The WMP is very, very common, throughout the games software industry. Any given company will have at least five times more WMPs than they actually need, and nobody will be able to tell you why or when they were taken on. Presumably they had a function at one time, but no-one can quite remember what it is anymore. After all, they've probably been with the company for at least six months, and now they're there, you're stuck with them.

They flit around the office looking terribly serious or terribly bubbly, depending which personality R&D have allotted them. Having no clearly defined job, they tend to move around from desk to desk impartially, doing whatever comes to hand — whether it be manning reception or talking to customers or the press. Some say this is because they're multitalented. Cynics say it's because they don't know which desk is actually theirs.

All this arises because MP R&D's resources are limited, and so they only equip the WMPs with the minimum needed to establish them in Reality. Homes they don't get, having to make do with elaborate cover stories and a decommissioned gas tank which they share with up to 3000 other WMPs and where they go to swap WMP-type stores and float around out of their skulls (and the rest of their bodies) to get away from it all.

Behavioural Patterns

WMPs deal with the nitty-gritty of marketing games software. This explains an awful lot about the industry as a whole.

Desperate to be as Real as possible on the limited resources provided them by MP R&D, WMPs spend most of their time selling themselves rather selling their product to increase their Reality quotient.

They go to a lot of parties and get very buddy-buddy with senior executives and anybody of any importance whatsoever. They spend a lot of time working on their cover stories which must be as eventful as possible to get attention. WMPs are therefore always divorced, or getting divorced, or having a simply terrible time with their boyfriend. They spend terribly long periods of time telling all these stories to anyone who has the strength to listen. They have pet names for everybody and develop enchanting little catchphrases (such as 'Wotcher Mate', 'Brillo' and 'Gosh, Mega') to use on the phone so that they can be identified among the common herd. Even so, WMPs have a disconcerting habit of flicking out of existence at crucial moments never to return, just because everyone has momentarily forgotten who they are. Sadly, it usually takes several weeks for anyone to notice that they've gone, if they ever do.

These huge efforts of concentration leave very little over for the software side of things. Most WMPs are convinced that all computer games are 'tapes' (as anyone who has ever had to correct their playing instructions or copyright notices will confirm). Disks are something they have in their backs which they take to a Very Nice Young Man called an Osteo-something-or-other to get massaged, after which they go for drinkies with him.

Before they show a game to anyone they play if for at least five minutes so that they can tell them all about it, and they draw up handy little press releases which list all the wonderful features of their wonderful product (usually dragged out of a hapless programmer at knifepoint). The more competent ones will be sent out to demonstrate the games. A nightmare for all concerned, since as far as WMPs are concerned, loading is something that happens to lorries outside the warehouse when they've sold the product, or, even better, what they get in the bar after work.

Other Remarks

If you want to hit a WMP where it really hurts, just mention the Kent Team. She probably lost 70% of her sales to them last year.

MARKETING PEOPLETTE TYPE #3: The Male

Distinguishing Marks

A rare fish, this, readily identifiable because he wears trousers and NO MAKE-UP WHATSOEVER.

He does, of course, use varnish (ultra dark) on all areas not covered by his carefully casual suit. Because it's harder to be a Male MP than a female, he carries a Psion Organiser to remind him who he is. He has very, very white synthateeth that look very, very good against his very. very dark synthaskin, and does toothpaste ads in his spare time.

He drives Granada one BMW and ALWAYS has a car phone. He usually has personalised number plates, too.

Habitat

The MMP has an OFFICE. It is always, but always, the biggest, comfiest, gadgetiest and BEST in the entire company. The MD's office cannot compare; the MMP's has deeper pile carpets, bigger filing cabinets, comfier chairs with more hydraulics than an oil well, and his own coffee machine (called 'my secretary'). The front of his desk (real black wood, not MFI plasti-ash) is tastefully decorated with a battery of telephones in glorious technicolour, only one of which is actually connected to anything. He is a Master of Reality and has a Very High Profile. He can also convince people that:

1. He is what he says he is.
2. Can do his job.
3. Is worth every penny the company forks out for his services.

He's also a sweet talker.

Behavioural Patterns

The MMP has an Attitude Problem. It works like this...

Totally dedicated to selling himself... errr, his product, and having been blessed with maleness by R&D, he has to prove he can sell more, better and faster than all those dam' females out there. The best way to do this is to have the Best Product In The World, or at least to convince everyone that he has it. Being such a sweet talker he also convinces himself that he has the Best Product In The World. It's a logical conclusion, then, that anyone who doesn't want to buy it is totally out of their tree and not worth bothering about. His less-than-tactful expression of this point of view to his customers has frequently led to his being requested, or

PRESS ANY KEY

even assisted, to leave the premises by the said customers.

His survival instincts, however, are well-developed. He knows he's got to keep the women down, because if he doesn't he's going to be out of a job and out of Reality PDQ — nobody is more aware than he that the little darlings are just waiting for a chance to get their little knives in his back, their nails in his eyes and their backsides on his chair — permanently. So he butters them up like crazy and makes sure that each one of them knows that she is absolutely the only girl in his life. The instant any of them gets halfway towards promotion and quarter-way towards his job, he utters the memorable phrase 'Baby you're unReal', whereupon she vanishes through the dimensional interface in a puff of vapourised Kwik-Tan.

Other Remarks

The MMP is paranoid about his publicity material. Only HE can give it out, because, he figures, only HE should receive the gratitude of the customers for such largess. So he seals the tops of all his boxes of T-shirts, posters and freebie Lancky bars with yards and yards of parcel tape, signed in triplicate and padlocked. The latest craze among EMPs and WMPs is seeing who can get the most goodies out of the bottom of these boxes, and then betting on how long the MMP will spend on his Psion Organiser trying to work out if he miscounted.

MARKETING PEOPLETTE TYPE #4: The Human

Distinguishing Marks

Male or female, the odd one of these does stray into the business from time to time, generally by mistake or because they're related to the MD and he wants them off the dole queue.

MALE — Wears a baggy company T-shirt, stonewashed jeans, faded sweaters, trainers and a bewildered expression. He is frequently mistaken for a programmer, which is what he'd really like to have been, if only he could have worked out the difference between Return and Enter.

FEMALE — She's not blonde, not slim, and couldn't have fitted into an MP-type frock at five years old, let alone 25. This is not saying that she doesn't try: if everybody else around the place is wearing them, she figures, she ought to as well. The result of this philosophy can be interesting, if somewhat less than decorative.

Both male and female HMPs drive clapped-out Rovers with the left wing bashed in.

Habitat

HMPs have HOMES. Unlike everyone else in the games software industry, they actually go to them. In fact, they spend more time at home than at work — or at least, more time somewhere than at work. HMPs, you see, have Private Lives, and when they're not living them somewhere, they're sleeping off the after-effects. When they do show up at the office they can generally be found on a shelf in the warehouse, snoring happily.

Behavioural Patterns

HMPs shift an awful lot of stock. This is largely because they go to an awful lot of the Right Kind of Parties, meet an awful lot of Fun People and generally have a Good Time. They don't give a hoot about their product so long as they get their wage-packet on time and are about as dedicated as an Amiga. Customers buy from them out of sheer relief — they know a Real Person when they meet one.

The major part of MP R&D's resources are now committed to finding out how HMPs do it so they can do it too. They are already educating all MPs in the art of dancing on tables at large parties, since the rousing success of certain HMPs who used this ploy at the Industry Dinner and other related functions. R&D have further concluded that dancing on tables is even more effective if accompanied by the removal of certain articles of clothing and the consumption of large quantities of alcohol, not necessarily in that order. All MPs are being instructed to practise this technique whenever possible.

Other Remarks

Will the In Din tables take the strain?

The characters in this article are based on no particular person or persons. No harm is intended.

MORE IN THIS OCCASIONAL SERIES SOON...

PBM U



After last month's introduction to the world of PBM, John R Woods looks at a bevy of fascinating releases and starts with a peek at two news games from Standard...

Standard Games are one of the fastest growing companies at the moment. They combine high quality product with a friendly service. Mutant Wars is among the batch of their most recent releases. The game is a computer-moderated wargame, designed to give fast action and excitement. Each game has 25 mutated players battling it out over a map of 30x30 squares. Mutant Wars is set in a post-nuclear war era, with the radiation having caused horrific effects. Now, a few generations later, these mutations are so varied as to have not just different appearances, but different skills and talents. Some can fly, others can turn invisible, some can even photosynthesise! This all adds up to make a fun wargame which would be an ideal introduction to play by mail.



As a special deal for TGM readers you can get the colour boxed start-up absolutely free! Further turns cost £2 (or £3 in the later stages).

Also from Standard Games is Adventurer Kings, an epic game of adventure and imperial conquest. You play an elf, dwarf, orc or human; and must wield your armies to become the ultimate victor over 11 other players. Magic, hidden lairs, monsters, unique worlds for every game and 15 army types, make this a very exciting fantasy wargame. Adventurer Kings is more expensive at £6 for your start-up (which includes your first two turns) and £3 for further turns. Computer owners can also send in disks or play by electronic mail.

Ghostbusters

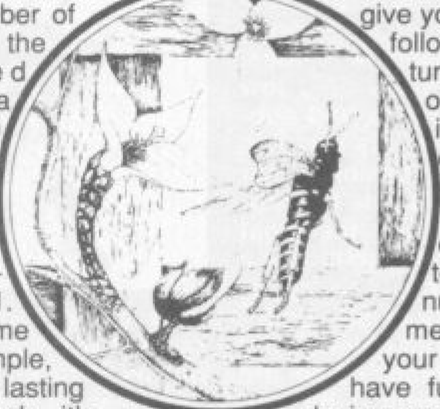
A new hand-moderated game has been launched by Temple Games. In Gothick you play an investigator for the Institute of Paranormal Research. Just suppose that Frankenstein and Dracula existed — that Lovecraft's horrors really stalked the Earth... Just suppose that they still do... When strange things occur and the police are baffled, the IPR steps in. Leads may include newspaper reports, or stolen files, with which you must track your way to solve the mystery. This is a very original looking game that looks like good solid fun, and with start-up at £3 (includes two turns), and further fees at £1.75 it's reasonable priced.

Legacy of the Panther is the first game from West Pennine Games, and players initial reactions have been favourable. It's a wargame set in the Empire of the Panther (a fantasy land), with a frantic struggle to become Emperor. You are one of the hundred or so remaining Area Commanders of the old empire. Starting with a small force and limited resources you must impose your will over the surrounding areas by invasion or other means. Whether you are a tyrant or benefactor is up to you. You may choose to further the aims for the old empire, or attempt to go it alone outside its borders. Each turn you get to fill out up to 25 orders, for just £1 a turn. And TGM readers can get their first turn and start-up absolutely free!

Taking place in a pyramid, Pyraglyphics, from Chepro, is an adventure game for up to 40 players. Each challenge is set in a different pyramid, with players competing to ascend the levels before they dissolve from beneath them! There are scrolls to read, chests to open, weapons to wield and strange articles to puzzle over. The game changes as it continues,

UPDATE

so don't forget to explore and map each level. Start-up costs £3.50 (includes three turns). Subsequent turns are 90p/£1.20/£1.50 according to the number of actions in the open-ended game, with a fixed £1.20 charge in the deadlined game. The rulebook can also be purchased at £1. Overall the game looks fairly simple, and may lack lasting appeal, although it's a good introduction game.



How to PBM

Carol and Ken Mulholland, of Time Patterns, have come up with a PBM first. Their book is entitled Games Mastership — How to Design and Run a PBM Game. The tome stretches to 126 pages and contains numerous quotes from the professionals. The book covers definitions of types of games, the game design, how to organise your firm in terms of time, costing, equipment, staff etc., marketing your game, and relating to the players. Overall the book is a real credit to the authors, being both comprehensive and well written. If you're thinking of taking the plunge into GMing then this will be an invaluable guide at only £5.50.

MJR Games have been around in PBM for a couple of years now with their popular roleplaying game Raiders of Gwaras. Mike Richards, their boss, has taken the plunge and employed his first Games Master to run a new world using the same system, Yshkar. It's a strange world with Dragon Riders, winged baboons, lizard men and humans, all competing to dominate. Play one of these forms, develop your character and exploit its strengths. Turns are lengthy at about two typed pages, which more than justifies the turn fee of £2, and a rulebook for £5.

At this point I thought it'd be a good idea to give players some hints on roleplaying in PBM games. I remember the first time I tried out one of these games, and to be honest I was a bit lost!

In most roleplaying PBM games you take on the role of a character in some sort of fantasy land. Each turn you must detail the actions of your character, and the GM will decide how the actions went and give you a storyline to follow and use next turn. The object of roleplaying isn't as clear cut as in a power game. You're not necessarily aiming to become numero uno, but merely to develop your character, and have fun! Good roleplaying can give great satisfaction, perhaps more so than any other types of game.

So how is good roleplaying achieved? For starters you want to think carefully about your character, and decide exactly what he's like. Many go for the stereotyped 'huge barbarian warrior with a massive axe', while others may prefer the more subtle (and perhaps more challenging) 'young man with spectacles, who appreciates art. However, he has an unfortunate drug addiction which is growing daily and his local supplier is manipulating him as part of a large fraud operation.' These are, of course, just examples, but let your imagination work in overdrive and try to come up with a 'deep' character — someone who isn't just a series of statistics for strength, agility etc. Having done this the roleplaying becomes much easier.

In most of the roleplaying games on the market the GM will try to lead you to where action may be found, or gentle leads to what you're looking for. The type of these will vary from game to game. Some games are more combat-orientated — the leads will be reports of battles or where treasure can be found. In other games these leads may be you overhearing thieves talk of their next job, or even more mundane things such as a bar job vacancy that's going (always a good place to hear what's going on). In filling in your turnsheet you may decide to follow up some rumour you overheard, or, perish the thought, totally ignore them and come up with your own scheme — the choice is all yours.

Turnsheets are arranged in different ways, but they usually give you space to enter a series of instructions for a period of time. Try to justify your actions as to how your character would really react. If you're playing a wimp who's never done anything brave in his life, don't make him take on a bunch of muggers — perhaps more realistically he'd faint, and they'd rob him blind! It's often a good move to also detail some of the emotions and thoughts your character is going through — these add enjoyment for the GM and let him see that you're trying hard to make the most of the game. GM's love enthusiastic players.

Finally, quite often an action will fail, and you don't really want to waste a whole turn because of this. For this reason it's a good idea to give the GM options, 'If it's sunny I'll stay on the stall all day, and pick the pocket of any helpless looking individuals, but if it's rainy I'll go into the bar and drown my sorrows.' One last piece of advice — have fun. If you don't you shouldn't be playing! Good luck.

And on that note another column comes to an end. As I've said before, please send in your views on the column and PBM in general to

PBM Update, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB.

CONTACTS

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Time Patterns: 97 Devonshire Road, Birmingham B20 2PG.
Chepro Ltd: 6 Granton Gardens, Edinburgh ED5 1AX.
MJR Games: 43 Cromwell Ave, Whalley Range, Manchester M16.



Master of the universe

Space Master — The Roleplaying Game

Iron Crown Enterprises (£20.95)

Space Master is a descendant of another ICE game, the fantasy RPG Role Master (itself a relative of the roleplaying game of the Tolkien universe, Middle Earth Roleplay). The rules systems are completely compatible, so it's quite possible to combine the two games and mingle sci-fi with fantasy.



Although a considerable amount of background detail is provided for one particular future universe, the rules are adaptable to any futuristic setting you wish. Subsequently the referee has to beg, borrow, steal or even write their own background material to use a setting other than the one provided with the game, but it's a great strength of Space Master that its rules system is so flexible.

This flexibility has a price, though, and one which not all gamers will want to pay. Space Master is COMPLICATED! The three rulebooks in the boxed set confront the player with well over 300 pages of densely-packed rule descriptions, charts and tables. The emphasis is very much on detail and ease of reference for experienced players. For example, the first of the three rulebooks deals with the system of character generation, combat rules and character skills. Whereas many games would include a leisurely introduction to general roleplaying concepts and an overview of the game system, just a couple of pages into the Space Master rules the reader is already being confronted with uncompromising statements that would baffle any beginners.

The rules, once you get to know them, work pretty smoothly. Unlike many games where play can go for hours without the rulebook being needed, Space Master does require frequent reference to its many tables and charts. The character skill system is a hybrid of the character level concept of games like Dungeons and Dragons and the more generalised systems of many recent games. A huge range of different skills are detailed to describe the various abilities of individuals in the game, ranging from practical day-to-day necessities such as first aid, communications and hyperspace piloting to such varied fields as anthropology, caving, meditation and, of course, seduction!

As in D&D, a character improves attributes by gaining experience points, which reflect successful actions by the character. These can be gained by defeating an enemy in combat, by solving a crucial problem or even by being seriously wounded in a fight! A nice touch is that the number of points gained for a particular action depends on how many times the character concerned has been exposed to that situation. The first time an engineer fixes a busted robot or a gunner blows up an enemy fighter the character receives a comparatively large number of experience points, but the character will learn less by doing the same thing again and so would receive less points.

Once a sufficient number of points have been collected the character can advance to a higher experience level. Unlike the D&D system, the character's player can choose the precise skill benefits that this improvement leads to, picking particular abilities to increase and so allowing the character to specialise in whatever way is desired.

The Space Master combat system is fairly straightforward in play. Most actions are resolved using an open-ended dice roll — if the dice score is particularly high, the dice are re-rolled and the new result added to the first. If the second number is sufficiently high, the re-rolling continues. Similarly if a roll is very low another roll is made and subtracted from it. In this way it is occasionally possible for scores greatly outside the normal range. So even the most uncoordinated character has a chance of felling their opponent with a lucky blaster bolt.

One of the most entertaining parts of the whole game are the extensive critical hit and fumble tables, giving in often graphic detail the effects of such exceptionally good or appallingly bad dice rolls. For example: 'Several strikes take out the liver, spleen and intestines. Poor slob fights for one messy round and then drops' is one result.

After character generation and combat rules, the players' book goes on to detail the remainder of the general rule system and then gives a comprehensive section covering possible psionic powers, such as telekenesis and telepathy. The book concludes with a reference section and index.

The GM book contains material that only referees will need. The first section provides the tables and charts needed to generate at random realistic solar systems, including calculation of size, climate and possible intelligent inhabitants for planets. There are also brief sections on adventure ideas and possible campaign settings. The second half of the book gives the background of the Terran Star Empire, a feudal society slightly reminiscent of the universe of Frank Herbert's Dune. This 40-page section provides a historical introduction to the formation of the Empire and its people, technology and politics. The book concludes with an introductory adventure.

Last of the set is the Tech book, which details the varied and wonderful technology of the Space Master system. Everything your character could possible need is here, with weapons, robots and androids of every shape and form, plus more mundane items like clothing, medical equipment and survival gear. The final item in the boxed set



is a colour starmap of the nearest worlds to the earth — not as detailed as the amazing Near Star Atlas in 2300 AD, but a useful touch.

Space Master is complex and comprehensive. The rules system isn't as streamlined as it could be, but it covers a great variety of situations. It is also very flexible — not only can it be combined directly with the Role Master fantasy rules, but there is also a detailed starship combat game available, titled Star Strike, that allows players to use their Space Master characters as pilots or gunners. The level of background information included on a whole range of future technology and the wide variety of skills available to player characters means that Space Master really can be used with almost any science-fiction setting, and the Terran Star Empire is a universe full of adventure.

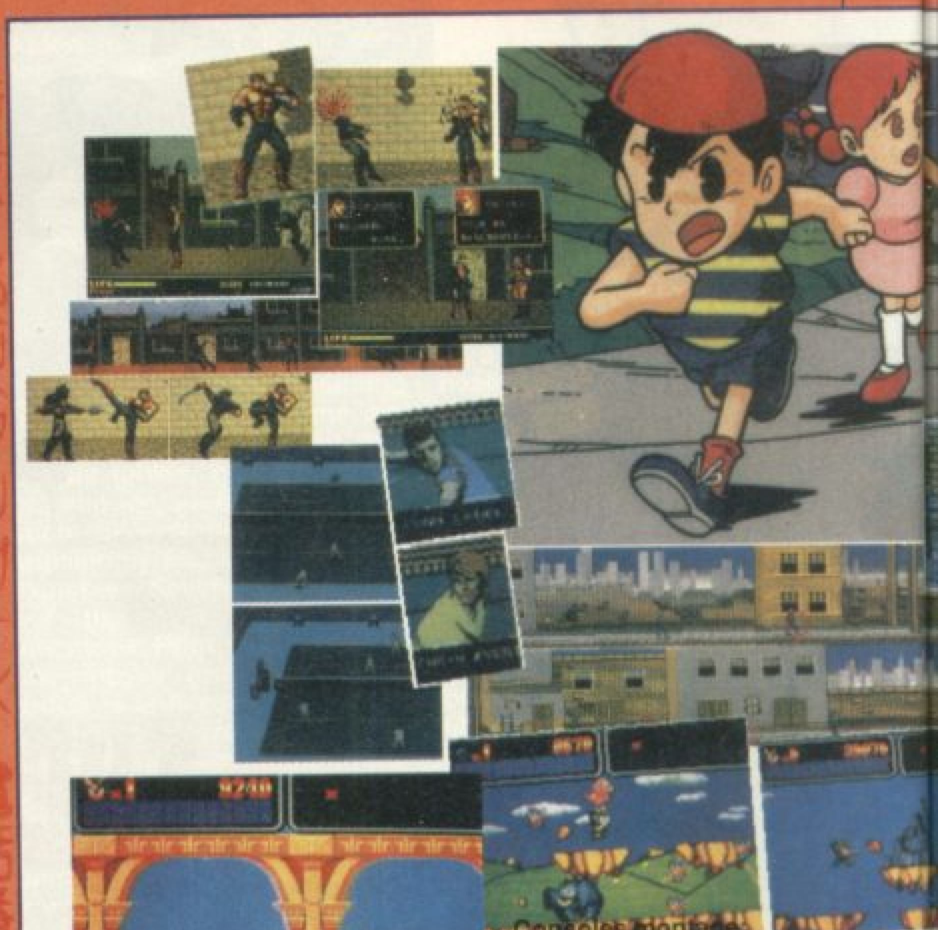
Not everyone will like Space Master. The rules make few concessions to ease of learning, and players without experience of other roles will have a really tough time. But as a detailed, flexible, science-fiction system it has a lot to commend it.



OUR MAN IN

ヨシやちもお京東

Is the Game Boy already doomed? Why is a randy comic strip turning into a computer game? Keeping an eye on the future often means keeping an eye on the continent. Shintaro Kanaoya reports on all that's new and lively in console-orientated Japan.



Consoles montage

top
2;top right: the artwork from Mothe
Tennis, new super-crunching Robo

Welcome back. I'd like to start this month with some news that may prompt all you PC Engine owners to go out and buy a CD ROM unit. Hudson, the makers of *R-Type*, are considering rereleasing R-Type, but this time on the CD ROM. They say that this way they will be able to get all the original sound from the arcade machine plus the whole game onto one CD. This would seem pointless, however, considering that almost all PC Engine owners would already undoubtedly have, or at least played, the original near-perfect conversion.

A much better way of using the CD ROM would seem to be for *Altered Beast*, mentioned last month, which will be released on both ROM card and CD. It looks as though the CD version will be a helluva lot better.

The CD version comes out a month earlier and includes all the demo and music from the arcade machine. It'll also be around £5 cheaper. ROM card owners definitely lose out — but when you pay almost £200 for a CD-ROM unit, you expect better quality.

On the subject of price, erstwhile Japanese PM, Mr Takeshita, imposed a new tax on almost all items in Japan. This, of course, includes computers and their related items. Therefore prices will go up. But don't worry. The tax rate is a mere 3% which, considering income tax has been lowered and that Britain's VAT, is a staggering 15%, there isn't really much to worry about. Games will go up by roughly 70p and the PC Engine by about £3.

Back to far more interesting items... Mahjong, the popular Chinese game played by four players, in which tiles bearing various designs are drawn and discarded until one player has an entire hand, will be brought to the Engine under the guise of *Mahjong School*. Not very relevant here except that this game contains a novel twist. Using the age-old favourites sex 'n' violence this is a bit like strip poker, except with mahjong. These have been hugely popular in arcades, lurking guiltily at the back. The violence? That is provided by playing a male computer opponent. When you win, you see a close-up of his face and a fist go crashing into it. At the end, he looks worse than Rocky at the end of said film (or, I guess, even at the beginning).

Still with the PC Engine, which is gradually taking over where Nintendo 8-bits seem to be trailing off, you can expect the release of these games soon: *Jack Nicklaus Golf*, *Wonder Boy 3: Monster Land* (CD only), *Shinobi*, *Power Drift*, *Knight Rider Special* — basically the Nintendo version on the Engine — and *Xevious 2*.

The conversion of *City Hunter* is one that I am desperate to see. It's based on a comic character who is fabulously awesome with his favourite weapon, the Colt Python, good at fighting and is as cool as ice. Like The Equalizer, but younger, he advertises to solve problems, but most of the time ends up body-guarding bodies of very attractive young women.

The comic art is superb and the humour risque. I'll be interested to see whether the programmers have managed to convey the feel of the comic book on the TV screen. City Hunter is the randiest thing on two legs and if it wears a skirt, you won't see him for dust. He also possesses a rather large backside which is so powerful, it can stop the many blows he receives. It's currently running in Japan's most popular weekly; if you see a volume of the collected stories in any Japanese book shop, like OCS in London, BUY IT. You will die laughing, I guarantee. By the way, a con-

JAPAN



p le exciting action from Double Dragon
her low left: Evert and Lendl in World
oo and Super Wonder Boy 2

version of the arcade game, *Atomic Robo Kid* is also planned.

The Nintendo refuses to die gracefully. Two big games this summer are *Dragon's Quest 4*, known in the US as *Dragon Warrior*, and Nintendo's biggie, *Mother*. Guess what? It's an an RPG. God give me strength.

Hostages, planned for November, looks ho-hum. *Double Dragon 2*, however, is a different kettle of piranhas entirely. The original, would you believe, was one-player. Amazing how companies just forget a game's greatest strength. *DD2* is, thankfully, two-player and looks like what *DD* should have been. In Japan, a December release.

Some of you may have heard of Juzo Itami, a Japanese director whose films include *Tampopo* (Japanese for dandelion, and a very weird hit film last year) and *A Taxing Woman*. The latter is to be converted to the Nintendo. Bet you can't wait.

Far more exciting is *RoboCop*. With perhaps some of the best Nintendo graphics ever, the game looks to be an arcade beater. Similar in style to the arcade, Robo can now punch, crouch, defend and use three types of gun. A target practice scene is also present. This may prompt you, if you have a Nintendo, to blow the dust off it and play *RoboCop*. I wouldn't expect a British release until at least the next Mars Olympics. Still, you can always hope.

Finally on the Nintendo, there's *World Super Tennis* which features two players who probably hoped to go further than the semi-finals at Wimbledon, Chris Evert and Ivan Lendl. Also expect: *Splatter-House* which looks strangely cute; *Top Gun: The Second Mission*; and *Mole Killing*. Regarding the latter, you may have seen these strange machines in Britain where little plastic moles pop up and you hit them with a plastic hammer (RSPCA be alerted). The Nintendo version uses a mat, not unlike the Family Trainer (the mat which you ran on and a little man ran on the screen, remember?). A hammer is also provided, for cruel and sadistic mole crushing.

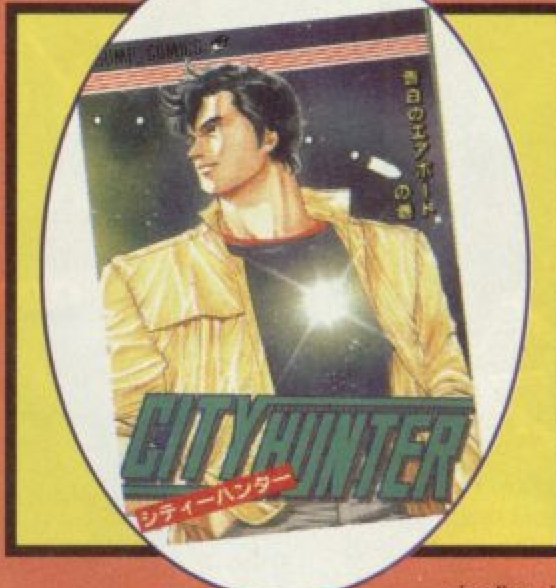
At the recent Tokyo Toy Show, like everywhere else, hand-helds were the order of the day. Konami, strong Nintendo supporter and creators of Nemesis and other great games, are releasing a bevy of games for their hand-held: *Contra* (*Gryzor*), *Top Gun*, *Nemesis*, *Double Dribble*, *Gradius*, *Skate or Die* and *Teenage Mutant Ninja Turtles* (nice title). Despite being in colour, the graphics are simple, with each one dedicated to one game. Sega's hand-helds *Super Hang On*, *Thunder Blade* and *Karnov* were also there, under the title of the Game Vision Series. (Some of these are available in the UK at places like Dixons.)

On the now-supposedly-doomed Game Boy are *Soko-Ban* and *Hyper Lode Runner*. Oldies but shining goldies, especially nowadays while waiting for a train. Apart from those puzzle games; *Golf*, *Motocross Maniacs*, and *Battleships*. With the two-player link, the latter could be tremendous fun.

Also at the Show was a string of new, and eagerly-awaited, PC Engine peripherals. All carry the 'booster' suffix on the end; they include an Illustbooster (illustration), Printbooster, a printer with a memory of Japanese AND Chinese characters, so it doubles as a mini word processor. Actually I'd better explain this.

In Japan, we use Chinese characters as well as two basic alphabets of 50 letters each. There are over 6000 characters that are known as Kanji. Because a typewriter could not have 7000 keys or even 50 for the basic set (not even in Japan!), our typewriters use the same keys as English typewriters — giving two basic characters on each key (2x26´52). So when you type in a word, the word processor displays on the screen a selection of Kanji that can be used for that word. You then choose the correct one and you're off. It may seem complicated, but once familiar with the system, it's pretty easy.

The Illustbooster and the Printbooster are collectively known as the Core Unit, and are actually a graphics tablet and printer. Also stuck in the



Dangerous, randy funny and possessed of the most poiwerful backside, the City Hunter — hero of the Japanese hit comic — is making his way onto computer soon

pipeline is a modem; plans are for, global games playing, ordering shopping (just like in *Son Son II*, but in real life), and checking on those all-important share prices. The PC Engine, your complete family management machine. You need never walk out of the house again.

As detailed last month, Hudson's battery backup system looks set to be called The Voice of Heaven 2. (I must have missed the first one.) NEC are rumoured to be making their own one. The name? The (boring) Backup Booster.

And that is almost it, except that *Afterburner* may come out on the CD ROM-based, FM Towns (at around £1,600 you won't see me buying one for review!). Next month, I'll be out on the streets of Japan, compiling the biggest Japanese report for the bestest mag. Unfortunately, I'll have to make room for Marshal 'Moneybelt' Rosenthal in next issue, as he brings you his eight-page supplement on American developments. So expect the complete guide to shopping in Japan in Issue 24. Travel the world with The Games Machine, and, till next we meet, sayonara.

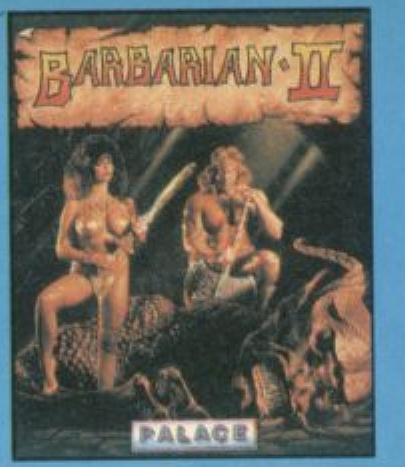


A selection of some of the more exotic hand-held games available in Japan

Working as a space pirate for arch-criminal organisation The Council you go in search of bountiful cargo ships. Succeed and you will gain money to buy new attachments for your ship. Alternatively you might wish to enjoy yourself in the Cosmic Arcade playing video games such as Disasteroids.

Available Now on Amiga and Atari ST.





The hit sequel to one of the all time computer game greats!

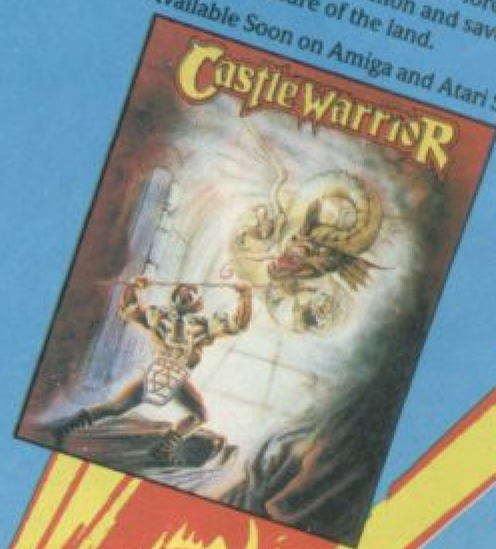
The search for the evil Drax continues. Now the Barbarian and the Princess fight their way past dozens of incredible monsters, through a maze of caves and dungeons.

Available Now on Amiga, Atari ST and IBM PC.

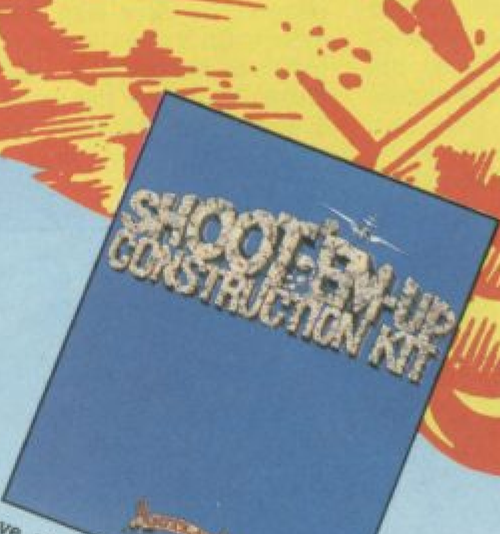
Classic arcade-style action for home computers as only the 16 bit machines can deliver: large characters, incredible colours and fantastic sound.

The evil wizard Zandor has poisoned your father, Edelred the Good, King of Pacifia. You have one day to force the antidote from the demon and save the future of the land.

Available Soon on Amiga and Atari ST.



EXPLOSIVE 16BIT ACTION FROM PALACE SOFTWARE



Have you ever dreamed of writing your own computer game but have been held back by a lack of programming skills?

Now is your chance to make your dream come true with Shoot-Em-Up-Construction-Kit, the arcade game making program that requires no programming skills.

Available Now on Amiga and Soon on Atari ST.



Run, leap, somersault and spin your cyborg through the Bio Challenge assault course. Furious joystick action through many levels as the seconds tick away.

Available Now on Amiga and Atari ST.

OUTLAW

PALACE SOFTWARE

PALACE

DELPHINE SOFTWARE

DOUBLE VISION, DOUBLE FUN

Win the original artwork for Xybots

Just take a look at the illustration on this page. Seem familiar? Well, it's the artwork to Tengen/Domark's latest hit game, Xybots. However, you'll have never seen artwork like this before, because just before the artwork pictured here was used, Domark decided to change the brief for top artist Steiner Lund. The characters in the final artwork, as seen in the Domark advertisement, are actually firing out of the picture.

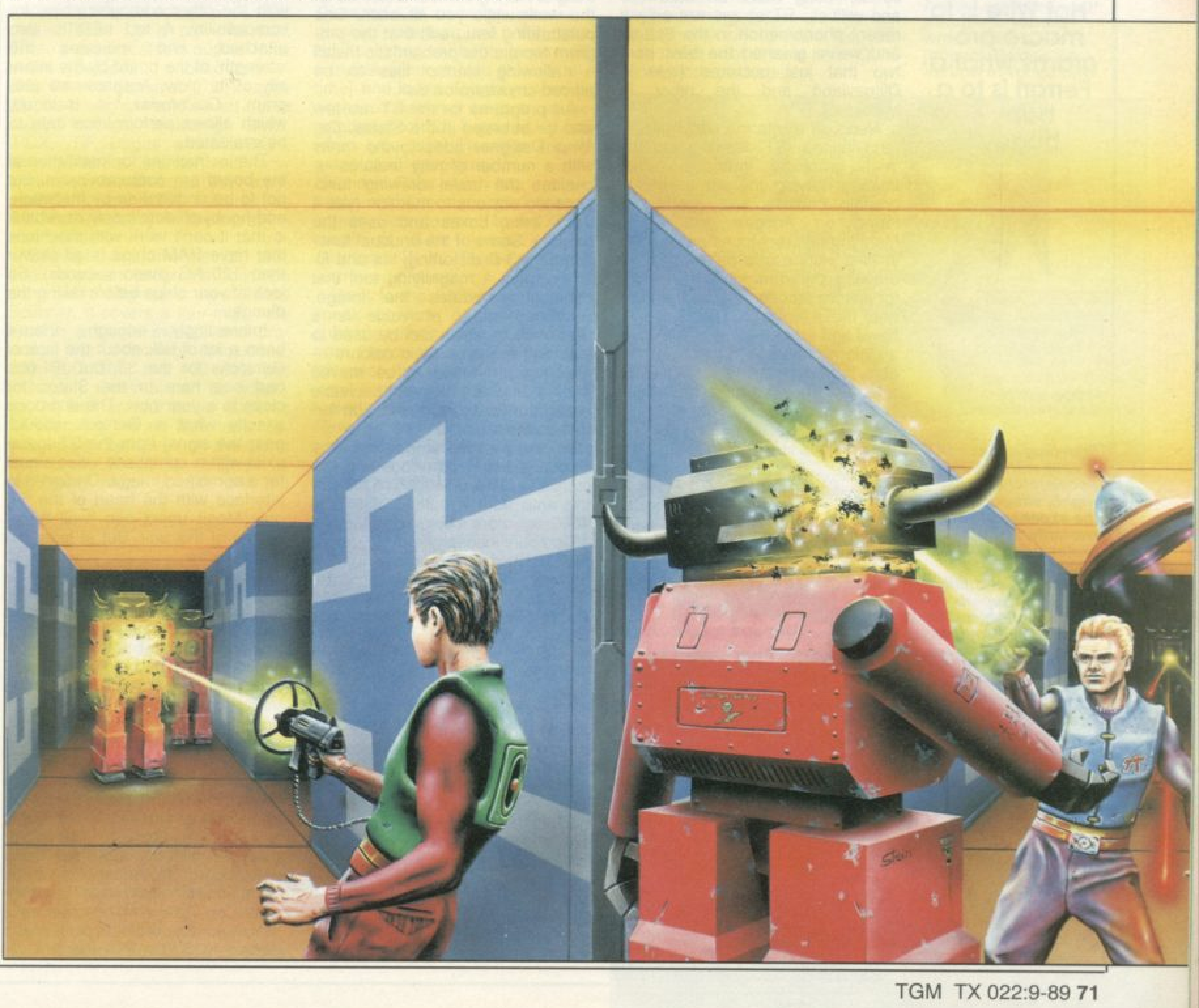
So, as you can imagine, the original Steiner Lund artwork is a real collectors' item. And, as a TGM reader, you stand a high chance of winning this superb, framed picture, based on last issue's hit Tengen coin-op conversion. Just answer the three questions below, and you could have the delightful artwork hanging on your living room wall.

1 What was Domark's first ever game?
  a) Star Wars;
  b) Friday the 13th;
  c) Eureka.

2 What is Domark's latest puzzle game?
  a) Trivial Pursuit;
  b) Pictionary;
  c) Monopoly.

3 What partnership appear in Xybots?
  a) Laurel and Hardy;
  b) Gunn and Roses;
  c) Hardy and Gunn.

Send your answers on the back of a postcard to EX WHY BOTS Comp, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB. First-prize winner will receive the original, framed artwork by Steiner Lund, and ten runners-up each win a copy of Xybots on their format (please specify cassette or disk). Entries in by 14 September.



ST SHOWDOWN

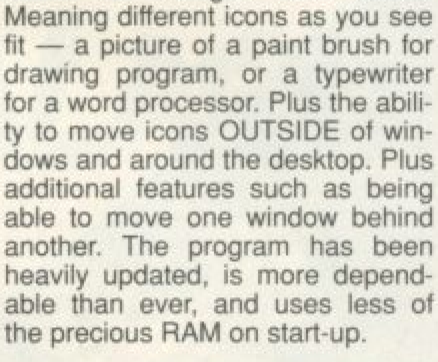
In America computer shows are as regular as Phil Donahue shows, and it's hard to keep track of them all. Marshal M Rosenthal sends this report on the latest Stateside Atari shows (yes, TWO!). The ST gets supercharged, multitasked and reveals its 4096 colours, while the old Atari XE/XL receives an amazing graphics cartridge.

"Hot Wire is to macro programs what a Ferrari is to a baby's buggy"

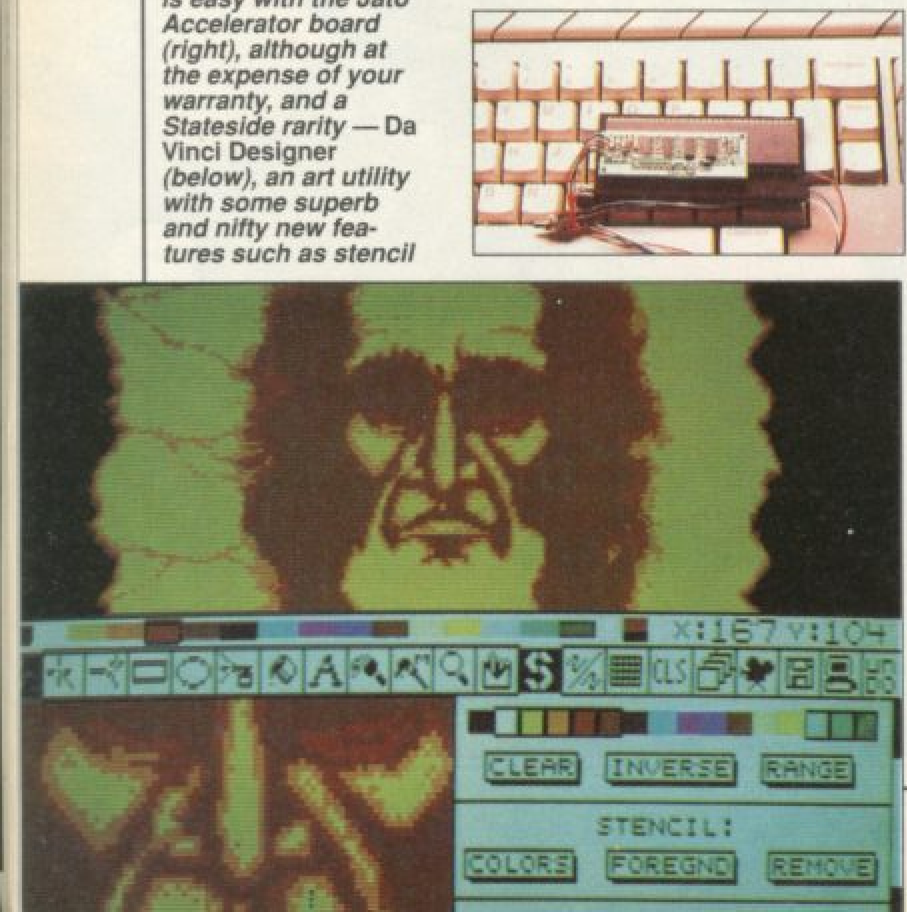
Photographs by Marshal M Rosenthal

Life can be confusing. A few years ago, some of the best games were being produced in the States, while great productivity and business programs hailed from Britain, Germany and France, among others. Today finds most of the games coming from Europe, while American developers seem to be concentrating more on hardware and utilities. ST shows are only a recent phenomenon in the States, and we've gleaned the best from two that just occurred (one in Disneyland and the other in Michigan).

Neodesk blasts the conventional (and limited) ST desktop into the 'real' graphical interface world. Imagine having the same kind of graphic choices and control as found on Amigas and Macs. Meaning different icons as you see fit — a picture of a paint brush for drawing program, or a typewriter for a word processor. Plus the ability to move icons OUTSIDE of windows and around the desktop. Plus additional features such as being able to move one window behind another. The program has been heavily updated, is more dependable than ever, and uses less of the precious RAM on start-up.



Speeding up your St is easy with the Jato Accelerator board (right), although at the expense of your warranty, and a Stateside rarity — **Da Vinci Designer** *(below), an art utility with some superb and nifty new features such as stencil*



Now that you've a hot desktop, try wiring it with *Hot Wire* from Codehead Software. Hot Wire is to macro programs what a Ferrari is to baby's buggy. A sequence of events can be activated with a single keystroke — thus eliminating the tedium of having to set up for each program. It's the next best thing to having someone else do all the work while you sit back. One outstanding feature is that the program repairs the problematic Install — allowing startup files to be placed anywhere on disk.

Art programs for the ST are few and far between in the States. *Da Vinci Designer* adds to the ranks with a number of nifty features — besides the usual drawing functions too obvious to mention (yes it does lines, boxes and uses the mouse). Some of the unusual functions are 3-D distorting, tint and filtering, plus a magnifying tool that constantly updates the image. Another feature of value is a Stencil mode. This can be used to lock and protect certain colours — enabling an image to be moved behind or inside of them. Lockable backgrounds and an animation format add to the mix.

An inexpensive alteration of the colour palette can be had by installing JRI's ST4096C. This ups the ante from a palette of 512 to 4096 for more colour choices, for 16 colours chosen from 16 levels (as opposed to the normal 8). The ST was always capable of doing this, according to designer John Russell, but because of some bad circuitry, Atari had to 'trap' the accessing of this extra bit-plane in TOS and negate it from being used.

The unit consists of a board; you pull out the Atari Shifter Chip, plug it in the board and replace the board on the Shifter's now-open socket. An additional Shifter Chip is also required (#CO25914-38 or #CO7013-002), and can be gotten directly form JRI if necessary. Be smart and go to an electronics store for the proper tools to take out the chips if you decide to handle this yourself.

JRI also includes a software patch for *Neochrome* — so as to access the increased palette — and a slideshow program. The digitised images look very good due to the increased colour palette (skin tones needing subtle shades). Documentation gives all the information needed to put in the board; installation for any of the STs taking about 30 minutes.

JRI also has a more radical product, so those with a bit more nerve can give the Jato accelerator board a try. But be aware that this requires soldering which will invalidate the ST warranty. This is due to Jato having its own 68000 chip — the CPU must be unsoldered and replaced with a socket for Jato to plug into, but there are no cutting of tracers or jumpers to deal with. Jato includes a hardware switch for those programs that can't tolerate higher speeds (like games), with the switch hanging out from inside the body of the ST. Results are that the ST now runs at 16 MHz — twice its normal speed — with internal data processing; it maintains the standard 8 MHz timing with the other computer chips for compatibility. A red LED is also attached, and indicates the 'strength' of the board by the intensity of its glow. A shareware program, *QuickIndex*, is included, which allows performance data to be evaluated.

The instructions for installation of the board are comprehensive, but not to be undertaken by the weekend hobbyist. Jato's only drawback is that it can't work with machines that have RAM chips rated slower than 120 NS (nano seconds). So look at your chips before taking the plunge.

Interestingly enough, there's been a lot of talk about the lack of Genlocks for the ST, but JRI has had one here in the States for close to a year now. The unit does exactly what a Genlock should; gear the signal from the ST to co-exist with a composite video signal for a combined image. Designed to interface with the heart of the ST, only Mega users can avail themselves of this unit. But at least the option exists.

MIDI tigers

Musicians have found Dr T's line of MIDI software excellent — and the tradition continues with *Tiger* (The Interactive Graphic Editor). Tiger is a completely graphic-orientated music composition program; with draw and edit operations active while you play. You can display up to three musical tracks and eight controllers at once, while notes are being drawn and edited onscreen (in groups as well if desired). Notes and phrases can be drawn or played-in with the mouse or using a keyboard. A sequencer can be used in conjuction with the program, or *Tiger* can be used as a stand-alone application playing and editing KCS (Dr T's programs) or

standard MIDI files. It's a bit like taking nineteenth century piano-roll notation, and adding twentieth century point and click computer graphics.

Spectre and the GCR cartridge (see this month's Emulation feature, page 37) have a bit of competition in Happy Computer's *Discovery Cartridge*. This unit allows for Mac emulation, and ST program copying. New (though perhaps more limited than the GCR) is their *Q-verter*, designed to facilitate the transfer of Mac disks to the ST — using only ST drives.

More than just a paint program is *Touch Up* from Migraph Software. Requiring one megabyte of memory (and a double-sided drive — all the new 520s have these, so check if yours is an early model), it works in hi-res mono mode only, and gives you unlimited screen size to work with, depending on memory (you scroll around a virtual window and use icons to select functions). Four zoom levels, cut and paste, rotation, resizing, plus drawing tools and the ability to edit at pixel level make *Touch Up* a powerful tool. There's even scalable outline fonts in ten typefaces to choose from — plus fill text patterns. The images can be brought in and saved out in many formats, including: .IMG, .PCX, .TIF, Degas and MacPaint, among others. Version 1.5 now eliminates the dreaded key copy-protection, and adds features as well. A very classy Slide program is also bundled.

Getting those images for this, and other art programs, can be done with Migraph's new Hand Scanner. It covers a four-inch wide area in a single sweep, and provides four scanning resolutions: 100, 200, 300 and 400 dots per inch (dpi). Contrast can be adjusted, as well as four dither patterns for scanning line art and halftones. Images can be saved on the same formats as *Touch Up*. Migraph is packaging *Touch Up Lite* with the scanner at a combined lower price.

Saving those images is usually a lot easier with a hard disk, but every user of one knows the trouble in making backups. DVT (by Seymour-Radix) lets you store up to one megabyte a minute from your ST's hard disk to a VHS video recorder cassette. The cartridge has two phono plugs that connect to the Video In/Out sockets of the VCR — which should be set at the fastest speed. Turn on the VCR in the correct mode (play for recall, record for save) and let the software take over.

For those of you who don't believe in time-shifting (or don't have a VCR), there's *Diamond Back* from Data Innovations. This backup/restore program is entirely GEM-based, and automatically compresses/expands files to and from a floppy disk.

Now for all those 8-bit Atari users out there, looking with adoring eyes at the 16-bit goodies, but with empty wallets at the moment. Take heart, Reeve Software's *Diamond OS* cartridge creates a graphic interface on the Atari XE/XL. Imagine booting up with sizeable windows (up to four at a time) and icons. Programs can be accessed and run using a mouse-simulated control. It gets really nifty when you use Reeve's line of graphics programs — like *Diamond Paint* which has cut and paste, and import/save sections of screen. Soon to come to the XE/XL range of 8-bit Ataris will be *Diamond Write*, Reeve's 80-column word processor.

Back to the 68000, we end this sneak preview of American ST products with the elegant *Revolver* from Florida-based utility producer Intersect. It's an all-purpose software package that loads into protected memory on bootup. *Revolver* has a host of important and useful functions; one being a way to get around the problem of a lack of multitasking on the ST. the program quickly and efficiently creates sections of memory — enabling a 1040ST to have two blocks of 400K+ RAM, and a bit left over for desktop accessories. Using this configuration allows you to load a database in one block, and a word processor in the other, for instance. Instant switching can be accomplished with a series of keystrokes, as well as a main menu which can be referenced at any time.

The menu allows a number of functions. Besides RAM disk and printer spooler control (using a printer and the computer simultaneously), system information and configuration can be carried out. A disk menu allows formatting and making folders, plus all the other usual functions — it also provides for a *Degas*-compatible screen snapshot mode. To add to all of the above, there's the roll-in/roll-out function. Provided that the program is well-behaved (some games will not allow this), *Revolver* is able to save a compressed file of everything occurring onscreen. This can be automatically updated too, and then rolled-in at a later time. Quite a lot for one package.





***Multi-tasking with* Revolver *(top), and a sequence of events can be activated with a single keystroke with* Hot Wire *(above). Below: the miracle of* Touch Up**



MAKE THE MOST OF TGM

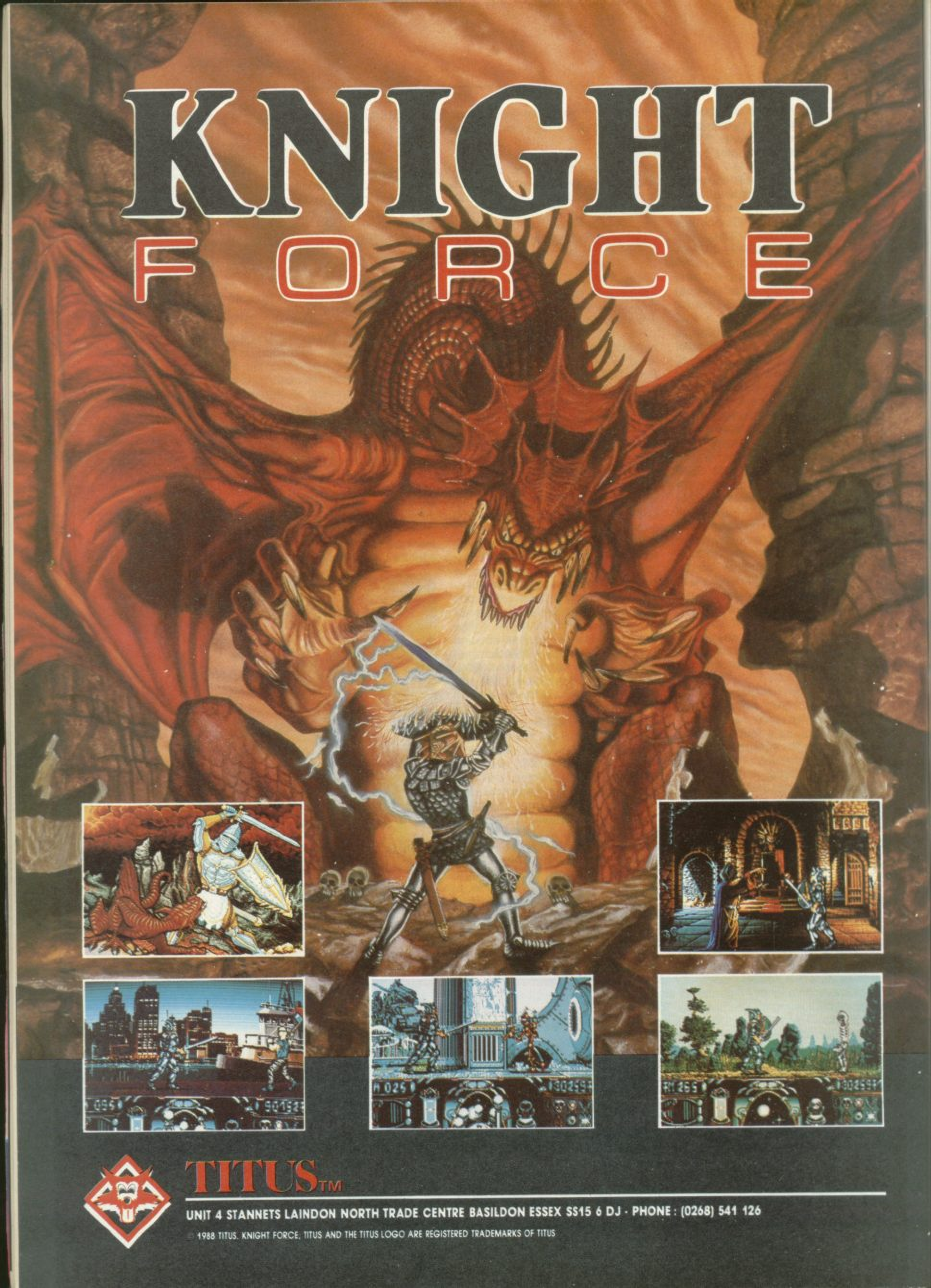
As you will have seen from reading this article, there's a helluva lot of development going on in the States. TGM will be keeping a close eye on all the shows (ST, Amiga and PC) in an effort to bring you news of the expanding market of new technology long before anyone else.

However, some of the items featured may not see the light of day in the UK through 'official' outlets. Grey imports of all the best hardware will undoubtedly appear, although this will be months after the US release. To benefit fully from the latest American news in TGM, and get what you want NOW, you must take advantage of the American addresses that we print.

If you fancy any of the items we mention, write to the company requesting more information on the product (send the letter by Air Mail, and include a international reply envelope if possible), that way you'll get some idea of how long it takes that company to deal with a request. If you're satisfied with their service, then either send them an international money order, or even better ring them and pay by credit card (check exchange rate BEFORE paying, to get an idea of sterling equivalent). Follow these steps and you won't go far wrong. And make sure everything's compatible with your model of computer!

CONTACT:
Da Vinci Designer: ArtisTech Development, *PO Box 214830, Sacramento, California 95821*. $99.95 (October release).
Diamond OS, Paint, Write: Reeve Software, *29W 150 Old Farm Road, Warrensville, Illinois 60555*. **Cartridge and Paint:** $79.00.
DVT: Seymour-Radix, *PO Box 166055, Irving, Texas 75016*. $249.95.
Hot Wired: $39.95 Codehead Software, *PO Box 4336, North Hollywood, California 91607*. .
Jato, ST4096C: JRI Technologies, *PO Box 5277, Pittsburgh, California 94565*. Jato: $99.95; ST4096C: $49.95; Genlock: $650.00.
Revolver: Intersect, *2828 Clark Road, Sarasota, Florida 34231*. $69.95.
Tiger: Dr T's Music Software, *220 Boylston Street, #208 Chestnut HIll, Massachusetts 02167*. $100.00.
Touch Up, Lite, Hand Scanner: Migraph, *200 S 333rd, Suite 220, Federal Way, Washington 98003*. Touch Up: $299.00; Touch Up Lite: $199.00; Hand Scanner: $399.00; Scanner with Touch Up Lite: $499.00.

All price are US retail.


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You could be forgiven for thinking that Bullfrog Productions were a relatively new programming force. Only recently, with the release of the excellent Populous, have they been afforded their share of the limelight. But they have, in fact, been programming on 16-bit computers for a good few years. Robin Candy fought off wasps and a rail strike just to bring you their story.

Ribbeting stuff

Bullfrog is a close knit team of six. Founded by Peter Molyneaux and Les Edgar, it is in fact a subsidiary of Taurus, a programming company that produced application packages (*Acquisition*, *X-CAD* and *Adrum*) for the Amiga. Despite attempts by Commodore to push their machine to the business sector, the Amiga market gradually turned towards entertainment software. So rather than fight the trend, Bullfrog was created and took the plunge into the world of games software.

The current team consists of Peter Molyneaux (programming), Glen Corpes (programming and graphics), Les Edgar (administration), Kevin Donkin (programming), Shaun Cooper (programming) and Andy Jones (graphics).

To gain experience in the games market, Bullfrog took on the 16-bit conversions of *Druid II* from Firebird. At the time Firebird's product manager had just left; the game received little promotion and wasn't a success. Their next project, and their first original game, *Fusion*, took longer to program than anticipated, and was finally released through Electronic Arts. Out of these teething problems *Populous* was born.

Peter Molyneaux: 'By the time work on *Populous* had begun we were working more professionally. We created a development environment where we could develop on the ST and Amiga at the same time. We also started to have Friday meetings where we could discuss the progress of projects and new ideas. *Populous* was really spawned from one of these meetings. Glen got fed up with designing graphics and he wrote this routine to do the main display, we then used lego bricks to simulate the landscape. The game basically grew from there.'

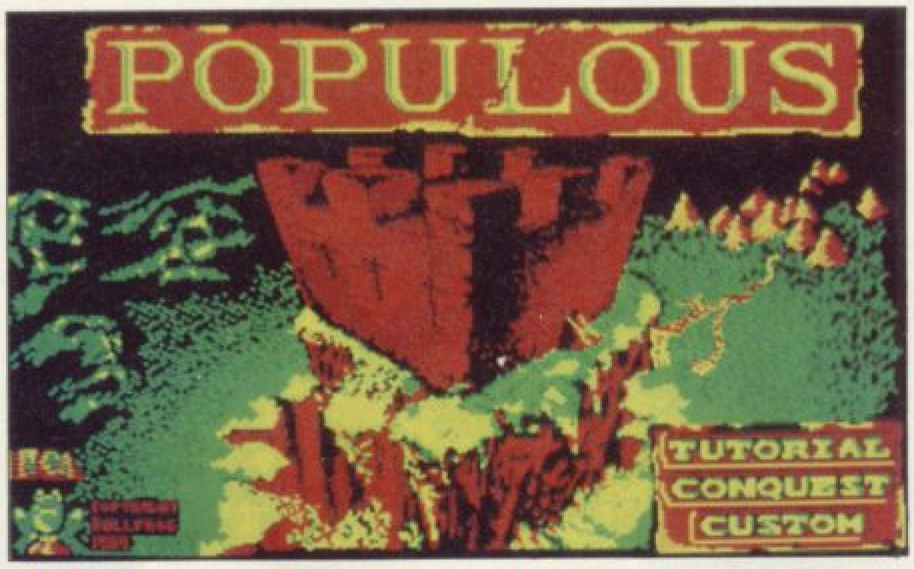
Finding inspiration can be the hardest part of any programming project. Bullfrog use that tried and tested method of going down the pub. Unfortunately Shaun has a nasty habit of being turfed out by the scruff of his neck, so they've had to resort to alternative methods. Peter Molyneaux explains:

'There are a lot of good programmers out there and the only way we feel we can be as good as everybody else is to keep coming up with good ideas rather than to work for ten years on a vector routine and come up with one a frame faster than everyone else.

'We've tried creating a big long spec list and detailing every aspect of the game and then getting someone to program it all in, but the result was actually quite boring so we scrapped that method. We've also tried quickly programming an idea in and then trying to build a game around it, but that didn't produce anything that we liked.

'Now when we develop a game we get it to a certain stage then we all sit around playing it. If we don't like it, the project is scrapped; after all we can't expect people to buy

"We can't expect people to buy our games if we don't like them ourselves"



...and one the publice certainly liked — *Populous*

our games if we don't like them ourselves.

'I don't think you can spec out a whole game before programming; certainly not the type of games we do. When you think of an idea, you've got no idea how it feels;





Leapfrogging to the top, the six Bullfrogs (top) contemplate Projects A and B, one of which can be seen on the screen above

whether it's going to be fast and furious or whatever. You can't tell how a game is going to turn out just from a piece of paper. The best thing to do is to get in there and play. I love playing games. The PC hard disk is full of them. I don't think it would be possible for us to spend months couped up in a little office programming if we didn't enjoy playing games.'

While many software houses program games on expensive development systems, Bullfrog prefer to work on the machines that the games are intended for. Graphics are designed using either *Deluxe Paint III* on the Amiga or *Art Studio* on the ST. While HiSoft's *Devpac* is used to assemble the code.

'We develop on the ST and Amiga simultaneously. With *Populous* we started on the ST then transferred to the Amiga and then back to the ST again. Porting games across from the ST to the Amiga seems to be controversial at the moment, but what people tend to forget is that the Amiga is a slower machine. Obviously with games that rely heavily on graphics, such as shoot-'em-ups, it is important to use the Amiga's extra features. If you're not using the blitter (which we don't in *Populous*) then the game slows down tremendously. Even with the blitter, valuable processing time is easily eaten up. A 32-colour *Populous* would have looked nice but would have played a lot slower. As it was, we were running out of memory towards the end of development, so a 32-colour version probably wouldn't have been possible.

'To us the most important aspect of a game is playability. We try to think that if someone spends £24 on one of our games they should get 24 hours of enjoyment from it.'

At the moment Bullfrog are working on three projects: two for Electronic Arts, which should be available early next year, and a third as yet unsigned. When a name is chosen for a game it has to be checked out to see if anyone else owns the copyright for that name. This process is currently going on with the latest Bullfrog projects so we can't reveal any names yet. However, TGM can reveal a few exclusive details on the forthcoming games.

Project A appears to be a cross between *Lords of Midnight* and *Populous*. None of the Bullfrog team has had much experience playing strategy games, and rather than draw on preconceived ideas of what a strategy game should be like they've used their inexperience to design the type of strategy game they would LIKE to play.

What you've got is a view rather like *Populous* except it is based on vectors instead of blocks. Vectors give Bullfrog a greater degree of freedom with the graphics. There are now landscaped features such as waterfalls. The landscape can also be rotated, so nothing remains hidden, while a zoom in/out feature lets you examine points of interest in more detail. The objective of the game hasn't been decided upon yet but there are numerous war-mongering tribes wandering the landscape who you will have to interact with.

One of the novel aspects of *Populous* was the simultaneous two-player game. Project A will allow six Amigas to be linked together for a truly epic game.

Project B is a world apart from *Populous*. Set in a maze it's a sort of puzzle game based on how water always finds its level. The player controls a centipede that grows and mutates while water gradually fills the maze, ultimately flooding it.

Bullfrog are keeping tight lipped about the final project. It is expected to take 18 months to develop and if their current projects are anything to go by it should be truly amazing.

And the future?

Peter: 'I hope there will be a return to developing original games. I think that arcade licences are going to die the death.'

Glen: 'The Amiga is further behind today's arcade machines than the 64 was four years ago.'

Peter: 'The routines on *Afterburner* were great. They were probably as fast as you get them but the game was still rubbishy. Arcade games are getting more and more sophisticated and the poor old ST and Amiga won't be able to keep up. I hope more people will start to design original software. A good idea needn't take a long time to program. *Tetris* was created on the Apple Macintosh in about a day. Eventually we will have to start developing for the consoles but there isn't a decent console widely available over here yet.

'I can't see us returning to business software. Entertainment software is so much more fun to program and you don't have to be so diligent. You don't have to produce 300-page manuals or give after-sales technical support. However, I think that our background in professional software has meant that we've got a completely different approach to programming. We're going to be programming games for a good while yet.'

The ADVENTURE STRATEGY ROLEPLAY Column

Far from the peace and quiet of Corinthian columns and ivy-clad arches, Paul Rigby discovers that it's the lure of outer space that is drawing the adventure and strategy crowds at the moment. But before the reviews, here's the adventure news...

They say that 'Time waits for no man'. Well neither, it seems, do Infocom. Not content with watching adventure players struggle over *Shogun*, *Journey* and *Zork Zero*, Infocom have announced a new RPG called *Minds of Titan*. It will, according to Infocom, be released around October and have 'a type of interface not dissimilar from that found in *Battletech*.'

Apparently, though, it is a totally new concept, developed by Westwood Associates, who have no connection to *Battletech*.

Epyx, kings of the sports simulation, have decided to dip their track shoes into the realms of the RPG. Called *The Omnicron Conspiracy*, Epyx's space RPG is intriguing. Listen to the blurb: 'You'll be tempted by cheap booze, wild sex and mind-altering drugs. You'll be chased across six planets by crazed religious cultists, vicious droid assassins and horny women. You'll have the time of your life.' Can't wait.

Space is proving a popular theme. New World Computing (Might & Magic) have also been beavering away on a spacey RPG, it's currently called *Space: The Game*.

Have you noticed that Interplay have been rather quiet lately? Too quiet, you might say. Well, it appears that the chaps who brought us *The Bard's Tale* are soon to unleash *Dragon Wars*, while the Wasteland team are working on a time-travel game called, at the moment, *Mean Time*. Finally, look out for Level 9's *Scapeghost*. Which may be out and about even as you read these words. Apparently, *Scapeghost* will not arrive with the customary novella. I asked Level 9's Mike Austin why, he said that there wasn't much point as you are dead at the beginning of the game, anyway. Hmmm, I'm not sure about that, but there you go.

I'm looking forward to previewing the five-part adventure, *Blood of a Vampire* by MSB Games for the C64. MSB describe themselves as 'home producers' of adventures. They're searching for adventure writers and adventures to publish.

MSB Games: 2 Bude Close, Bramhall, Stockport, Cheshire SK7 2QP.

Thanks to Sue 'Micronet' Medley and John 'Soothsayer' Barnsley for the copy of their new ST adventure magazine, *Syntax*. Packed full of reviews, hints and tips, screenshots, letters etc, *Syntax* is an enjoyable read and well worth the £3.50 asking price.

Syntax: 9 Warwick Road, Sidcup, Kent DA14 6LJ.

Another excellent magazine I've been reading with my cocoa is the *Adventure Coder*, devoted to creating adventures using all of the adventure utilities, as well as machine code. Issue One includes a very revealing review of the GAC+.

Chris Hester (Editor): 3 West Lane, Baildon, Nr Shipley, West Yorkshire BD17 5HD.

Piece of gossip of the month? Well, this one is pretty old, but I still chuckle when I picture it.

It so happens that the offices at Electronic Arts are situated in an area which is prone to the odd earth tremor. Anyway, about a year ago, EA offices experienced a rather nasty earthquake, nothing too serious you understand. The story goes that Trip Hawkins, EA President, while sitting at his desk, felt the earth moving beneath him. He then promptly stood up and took a quick look to see if anyone was around. Seeing no-one, Trip jumped up onto his chair, raised his arms and fists into the air and proceeded to shout: 'Go, Earth, Go!'

The point is; would you buy a used car off this man?

PC £59.95

STAR SAGA: ONE (BEYOND THE BOUNDARY) Masterplay

The space plague has ravaged Earth and its colonies. Once an adventurous society, discovering new planets, civilisations, new inventions and advancing science, Earth has now become introverted. Terrified of another plague. The Boundary, enforced by the Space Police, has served to keep out any outsiders. You can leave, of course, but just try getting back in. *Star Saga: One* (SS1) focuses on six people who want, for their own reasons, to cross the Boundary.

SS1, previewed in last month's shadow software feature, comes complete with six 12-page character booklets; 13 game booklets (each of about 45 pages); a colour map and counters; the mysterious Document Two; game disk and a 46-page instruction book.

SS1 is a breakthrough in computer-based roleplaying. We've had one player controlling one character, or a team of player-characters — like Imageworks's *Bloodwych* — but never have we had the



ST (also on Amiga, PC) £29.99

QUEST FOR THE TIME BIRD Infogrames

Your quest is to stop the rogue god, Ramor, from escaping his prison (a conch — no I don't know why either) and wreaking general havoc. You must recover the conch and the Time Bird. Only then can the incantations be said to save the world. To do this you control a maximum of four characters in the process.

Time Bird was written by the chaps who produced Passengers in the Wind so whilst playing Time Bird I waited, with baited breath, for the floor to collapse to reveal, yet another, empty Infogrames adventure. However, Time Bird is not that bad. In fact it's pretty good. The graphics are wonderful, whilst the appropriate sound effects, on the ST, are excellent.



The adventure is icon-driven. Actions are executed via a combination of mouse clicks, in addition to a variety of multiple choice menus.

However, the system can be frustrating. It is easy to click on the wrong part of the graphic which can take you in the wrong direction. Getting back can be difficult. Also, searching the graphics for objects is pure luck as they are positioned in obscure places. You must, basically, search every inch of the pictur e, which can be very time consuming. I'll give you an example. At the start of the game I happened to click (purely by accident, of course) on the ample cleavage of one young lady. This brought the response: 'Let's not forget this food. We'll be needing it.'!



A

Presentation	94%
Interaction	69%
Atmosphere	80%
System	72%
Overall	78%

ability to control up to six players, each with their own character and each with their own task. All six (you can play solitaire or up to six players) can wander around the game world getting on with their own business, each meeting new civilisations, each conversing with different alien races and each presented with different problems. The amazing thing is it is possible to never meet another player-character!

You can, of course. In fact, you will find it advantageous to cooperate later in the game, if not before. The Universe is a big place. You'll need all the help you can get!

SS1 operates by using the computer as a Games Master (GM). The computer moderates combat, keeps track of players' locations, handles trade transactions and updates personal possessions. In addition, it directs each player to read a suitable paragraph, in one of the booklets, when the situation calls for it. The game does not have any graphics — but who needs them when you've got reams of prose, that Infocom would be proud of. You keep track of your position in space by using the colour map and counters. Planets can be explored (each with their own civilisations, social problems, customs etc), items can be traded, skills can be learned and so on. In fact the trading area is the way you upgrade your possessions (ship avionics, weaponry, defensive armour etc). The one drawback is that, although you are presented with detailed reports, you do not have a great deal of control over combat routines (which has lowered the ratings, somewhat).

I consider *Star Saga: One* to be as important a release, if not more so, than *Dungeon Master*. For the first time, table-top RPGs come to the computer. The combat routines could be improved as could the interaction. However, when it comes down to it you have to say that SS1 is atmospheric, exciting and, the best thing is, when you have completed the game as one character you can switch to another and start all over again! The price is very high, I know, but however you do it, save up, split the cost six ways with a few friends, whatever — buy this game!

Available from Computer Adventure World, Bank Buildings, 1A Charing Cross, Birkenhead L41 6EJ)

R

Attributes	80%
Engagement	70%
Presentation	90%
Atmosphere	95%
Interaction	78%
Overall	91%

Spectrum £12.95

AUSTERLITZ 1805 CCS

Ken Wright appears again as one of the few wargame authors who regularly write for the Spectrum. With a string of successes behind him Ken, has taken the system used in Wellington at Waterloo and produced the fateful day during the French campaign when Napoleon decided to abandon the British invasion and concentrate, instead, on Russia, which lead to Napoleon's famous victory on the field of Austerlitz.

Austerlitz 1805 arrives with one tape and a 32-page booklet which contains the instructions, historical data and designer's notes. *Austerlitz* can be played one- or two-player, on three levels of difficulty. You can control either the French Army under Napoleon or the Austro-Russian army under Kutusov.



The infantry corps can be organised into line, column or square. Cavalry and artillery make up the rest of your forces. You may, under correct conditions, divide and amalgamate your forces as well as examine them for strength and moral. Moral is a critical modifier as units can route if moral drops too much. The domino effect of adjacent routing units is always a possibility in this case.

CCS are to be congratulated for their fine packaging for these games (artwork by Newsfield's own Oliver Frey, no less...), and Ken Wright for producing an exciting and enjoyable wargame which is a credit to the 48K Spectrum. AI and Combat routines work well with good use of limited intelligence.

Recommended.

S

Presentation	86%
AI	80%
Atmosphere	79%
Engagement	82%
System	84%
Overall	83%

PRESS ANY KEY

ST £35.00

GRAND FLEET

Simulations Canada

(available from Computer Adventure World, Bank Buildings, 1A Charing Cross, Birkenhead L41 6EJ)

Grand Fleet simulates the tactical naval combat in the North Sea during World War I. The packaging arrives with a game disk and two glossy grid maps, with the order of battle for each scenario on the flip side. Two Chinagraph pencils complete the package.

Grand Fleet actually simulates the span of 1906-1920, thus covering all types of ships which had any connection with WW1. The player acts as Senior Naval Commander so manoeuvre orders are given to your fleet while general orders are given to the other fleets who are under the direct control of your subordinate commanders.

The game, as mentioned in last month's feature, has no graphics (the display looks very basic) so the 'Fog of War' is paramount. You are only aware of what you can see and what reports you may receive from your commanders. This text-only principle makes for realistic naval situations which effectively simulate the tension and excitement of sea warfare. Any reports you may receive can be transferred to your grid map. However, playing *Grand Fleet* makes you wonder if that last sighting was correct. Did they really see smoke? Was that force estimation accurate? In addition to these factors is the weather (fog, etc), as well as ships laying smoke and so on.

Grand Fleet is a most innovative wargame. For sheer tension, unpredictability and realism it cannot be beaten.

S	
Presentation	75%
AI	87%
Atmosphere	90%
Engagement	86%
System	88%
Overall	91%

PC (also on ST, Amiga) £24.99

LIFE & DEATH

Software Toolworks

Now here's a novelty! This Surgeon Simulator comes with a genuine set of surgeon's gloves and face mask (not included in the NHS version). In addition to the manuals, leaflets and memos is a history of surgery pamphlet, which really gets you into the mood for some good ol' slicin' 'n' dicin'. After an initial visit to the medical class you trot off to examine your patients. Clicking on their stomachs brings a close-up of their tum into view. Examining the area may bring a digitised `Yeeeow!' or `Hmmmpphh!' indicating pain and discomfort. X-rays and ultrascans can be taken to assist your diagnosis.

If you need to operate you are allowed to pick a good team of assistants who give advice during the op. The actual operation, preceded by a short animated sequence of the patient being wheeled in, is very realistic. A close-up of the stomach is shown, with your surgical instruments adjacent. You can pick up objects with the mouse and `use' them on the patient, such as swabs, for example. If you make a mistake you are sent to medical school. If the mistake is very serious the patient is sent to the mortuary (graphic included, of course). *Life & Death* (which is better than The Surgeon, by the way), brings a dash of fresh air (spiced with disinfectant) to leisure software.

S	
Presentation	89%
AI	77%
Atmosphere	85%
Engagement	n/a%
System	82%
Overall	84%

PC £29.99, C64 £24.99

CURSE OF THE AZURE BONDS

SSI/US Gold

As I mentioned in last month's preview I was not happy with the first AD&D RPG, *Pool of Radiance* (POR), which I considered more akin to basic D&D. However, SSI have got their act together with *Curse of the Azure Bonds* (CAB). Two new classes, *Paladin* and *Ranger*, high level spells including 'raise dead', and a greater variety of monsters mean that, as far as I'm concerned, this is the first proper AD&D product I've seen from SSI.

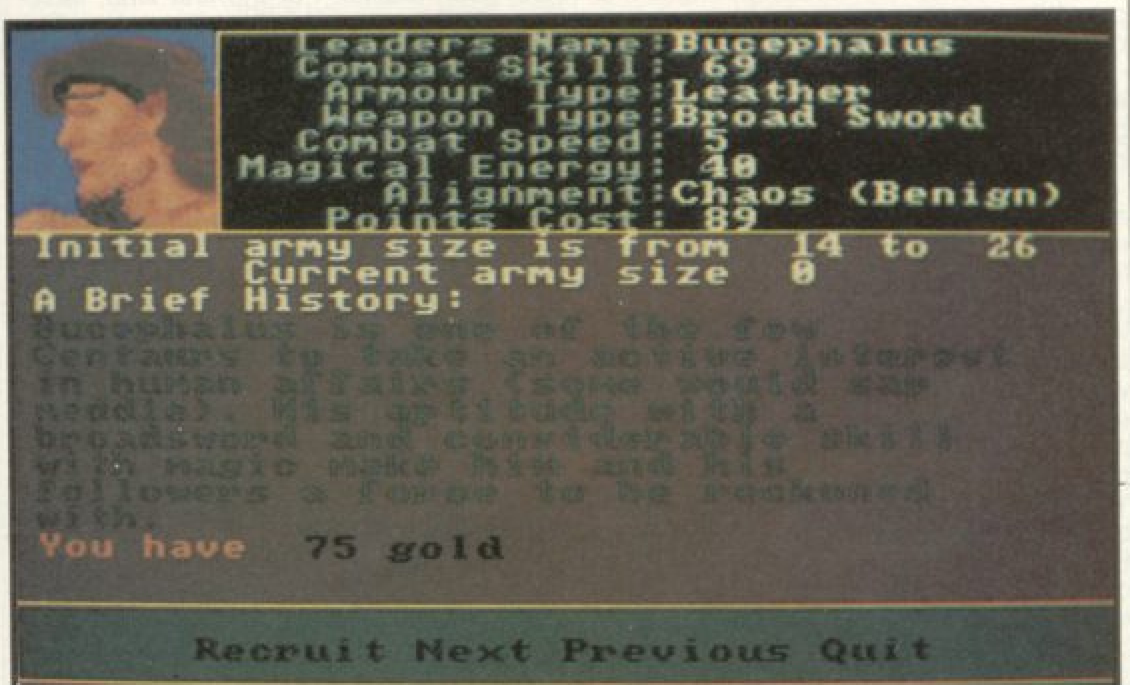
The POR system has been retained but enhanced. Another big change regards the actual plot. Basically, your team awake to find that they have been ambushed, captured and cursed with five magical bonds which can be seen embedded on one chap's arm at the start of the game. The bonds have powers to take control of your character's actions. Your quest? Get rid of them!

The actual storyline is an immense improvement over POR which just presented a set of missions for you to complete. CAB has a deeper, more involved plot which moves at a good pace.

Magic still has to be learned and scrolls read which is okay with me as this system is more realistic and prevents the magic users taking a complete hold on the game, which happened in *The Bard's Tale*. The combat system is very good, with the game allowing the player to deal in tactical manoeuvring. A Quick feature allows you to turn a character over to computer control to speed the combat routine. *CAB* is not perfect, though. A feature to enable the combat to finish in seconds would be an attraction to players who have no real interest to combat. Even with Quick, combat can drag on for 30-45 minutes — you have been warned! The parser could have been improved to allow more freedom to interact with NPCs. As it is, you must decide on your general approach to a character, such as 'haughty'. The computer takes it from there. Overall, *CAB* is an excellent RPG, much improved and polished over POR. It is good to see SSI actually improving the system rather than sitting back on their TSR licence. With a good storyline and excellent graphics. *CAB* is recommended whatever version you have.



R	
Attributes	92%
Engagement	90%
Presentation	92%
Atmosphere	93%
Interaction	78%
Overall	90%





PC, Atari ST 29.99

RED LIGHTNING

SSI/US Gold

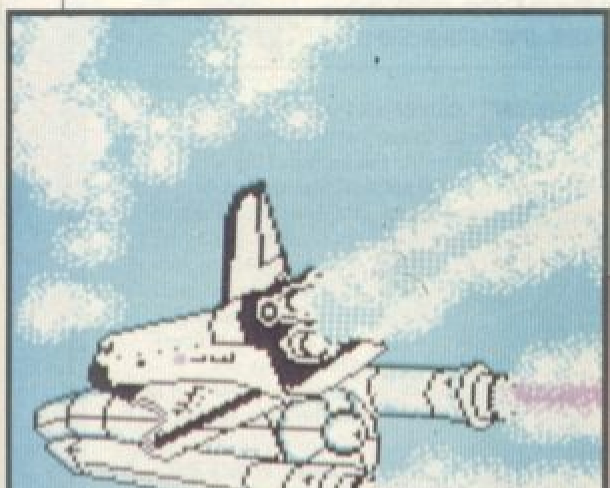
Red Lightning attempts to forecast what a third world war confrontation, between the NATO and Warsaw Pact forces would be like. The game arrives with a 27-page manual and a colour map-card which shows, on the reverse, a variety of additional information (unit icons, travel movements etc).

You actually play the Supreme Commander of either set of forces (a two-player game can be selected), and have the option of examining your forces in great detail. There are three scenarios (20-60 turns) with a variety of modifiers such as a variety of seasons, the use of Special Forces, difficulty level and the use of chemical weapons. In addition, a variety of reports are available (political, weather and so on). *Red Lightning* exhibits good use of aircraft which can attack force concentrations, supply lines and airfields as well as going on recce missions.

Red Lightning is probably one of the best presented wargames SSI have produced. I found it a pleasure to use. No obscure, multi-layered menus here. While detail is good, some of the basic research is weak. For example, SSI advocate that the F-117 should perform strike missions. It is designed, solely, for reconnaisance missions, it has about as much strike capability as my big toe. However, even with the odd wrinkle *Red Lightning* is a quality product.

S
Presentation 89%
AI 77%
Atmosphere 84%
Engagement n/a
System 82%
Overall 84%

For a full explanation of review classes and ratings, look at page 82 in Issue 21. If you have any queries or suggestions on any aspect of adventures, strategy or roleplaying games then send them off to: **Paul Rigby, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB.**



PC (Amiga planned spring 1990) £34.95

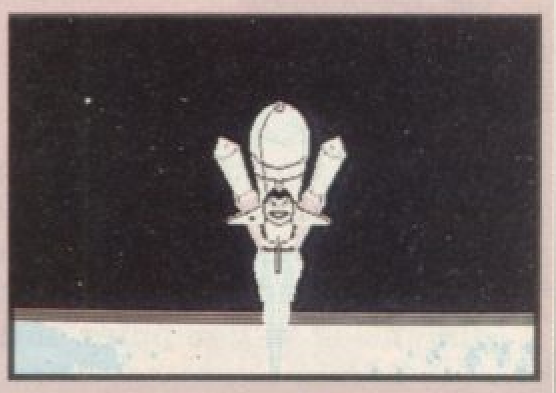
SPACE M*A*X

Hewson/Final Frontier Software

*Space M*A*X* sees you as the project manager for the world's first commercial space station. The simulation, itself, arrives with three disks and a professionally produced, 137-page manual complete with photographs, colour cutaway diagrams, et al. The author of *Space M*A*X* was actually involved in the Space Program, developing avionics for the Viking, Mariner and Voyager missions.

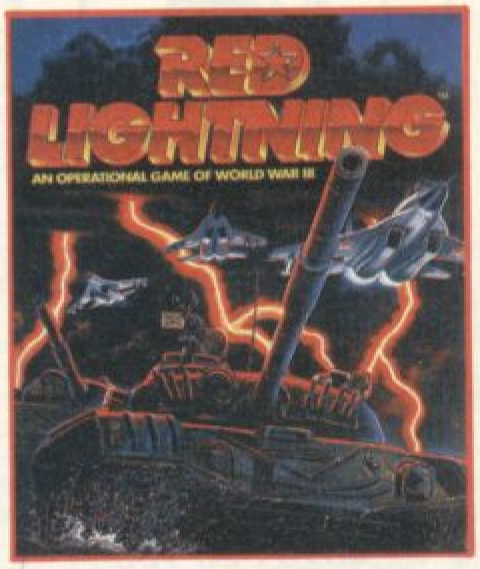
In the simulations, you are responsible for planning of payloads (for the shuttles and so on), sequencing and assembly of modules (habitation, astrophysics lab etc) of the space station, production of labs and manufacturing. The upshot being, you must launch, assemble and operate the space station. However, space is business, so you have a fixed budget and a time limit to complete the project. As well as juggling with the many financial and payload problems, you will have to contend with fires, explosions, workforce strikes and sickness. In addition, if you do not attach the modules correctly the station may suffer air leaks and so on. Further, it is not just a matter of docking modules willy nilly, you must plan ahead as some modules need adapters to enable them to dock on the station, others need supports modules to allow them to operate at all, and so on. You must have enough sleep stations for the people who are working on the station, correctly position the modules so that the centre of mass is not unstable, etc, etc.

*Space M*A*X* has quality written all over it. It will take you many, many hours just to come to grips with the details — never mind succeed in completing the project. The program is so useful that, if there are any business managers reading, *Space M*A*X* would make an excellent business management training tool. CGA graphics and typical PC sound do not detract from this heavyweight. I await the Amiga version with interest.



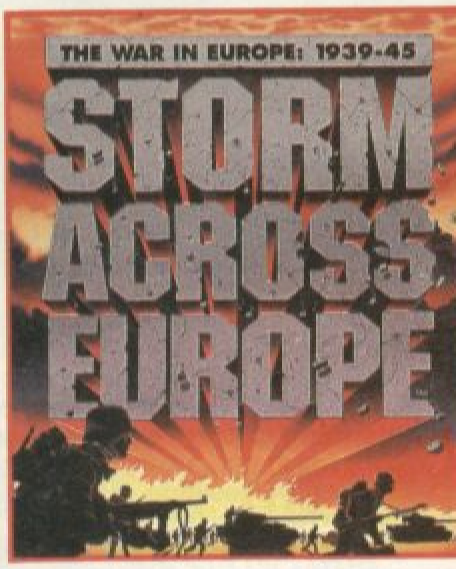
S
Presentation 86%
AI 93%
Atmosphere 90%
Engagement n/a
System 91%
Overall 92%

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Zzap Sizzler – 94%.

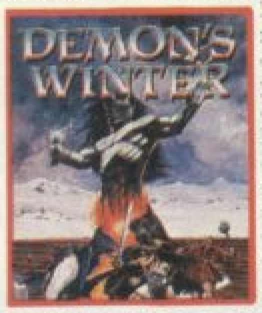
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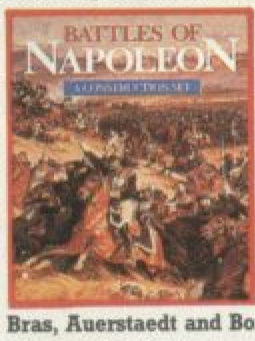
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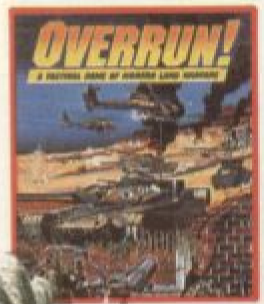
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The Games machine

REVIEWS

84 ■ THE NEW ZEALAND STORY
Ocean have done the impossible and improved on the arcade original. It has been a struggle to get a go on the game in the TGM offices with everyone fighting for the joystick! Follow the stirring story of Kiwi Tiki and his friends in this antipodean adventure.

STAR PLAYER

TOP SCORE

94 ■ FIENDISH FREDDY'S BIG TOP 'O FUN
Yet another mulit-event circus game hits the streets. Save the Big Top by drawing big crowds as you fight through six amazing acts while avoiding the mean depreedations of Freddy the disgruntled clown — a creation from Mindscape.

No violence please, this is a cartoon

TOM AND JERRY

Magic Bytes

Tom the Cat and Jerry Mouse are the stars of some of the most violent (but hilariously funny) classic cartoons ever made. In this, their first pixellated adventure, subtitled Hunting High And Low, you play the part of Jerry racing around the house's five rooms picking up bits of cheese and avoiding the grasping paws of Tom.

When Tom catches Jerry a few seconds are knocked off the mouse timer (rather than inches off his tail). Six minutes are allowed to collect all the cheese, but how to stop Tom?

Rooms contain obstacles to slow him down, which can be jumped over; large objects on shelves can be dropped onto Tom's poor old head, banana skins make him slide across the floor, or there are several distractions to catch Tom's attention making him oblivious to mousey antics.

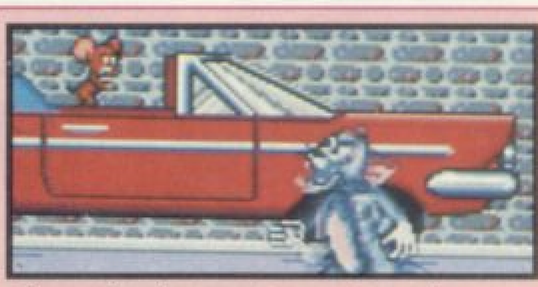
JRooms are linked by mouse holes set in the skirting boards, which make up a subgame: Jerry runs down the tunnel dodging mousetraps and various other unpleasant objects thrown in by Tom, while catching cheese. Five rooms in six minutes seems like a tough task, especially with Tom on your tail, but is the smell of cheese hard to resist?

We found *Tom And Jerry* a disappointment. The sprites look reasonably close to their cartoon counterparts but the actual gameplay collapses through too little content to engage interest for long. Collecting cheese and dropping things on Tom is amusing, but only for a very short while.

£24.99 ATARI ST 45%

Magic Bytes should have employed the services of a decent interior decorator to sort out the walls in this game, they're eye straining. Tom and Jerry move around the screen rather awkwardly, and this, coupled with the boring gameplay, causes frustration and flying joysticks very quickly.

OTHER FOMRATS
No other versions planned.



The sprites have a nice cartoony flavour to them, but the game lacks much to do

£24.99 AMIGA 47%

The Amiga game scores slightly higher for its improved tunes and amusing laugh which Tom utters when he catches you.

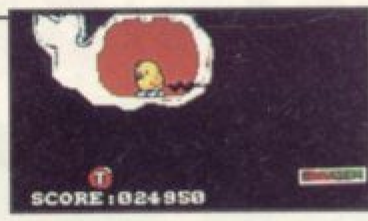
£9.99 cass, C64/128 41% £14.99 disk

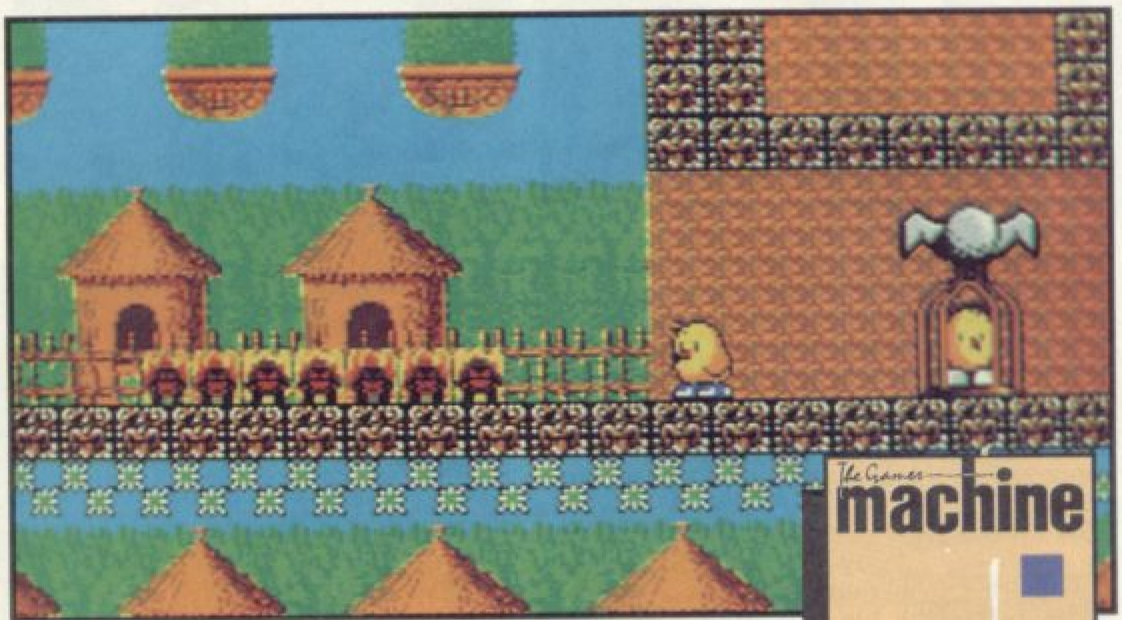
Frankly the worst of the three versions, the bright garish backdrops don't fit the usual blocky C64 graphics. And Jerry's almost the same size as Tom... not convincing. Consider carefully before shelling out.

PRESS ANY KEY

Antipodean antics full of kiwis

THE NEW ZEALAND STORY





Ocean

New Zealand is a very nice place to live, especially for Tiki and his friends in Auckland Zoo. They are kiwis, lovable little yellow birds who wouldn't hurt a fly. But unfortunately the game's baddie game would — a psychotic walrus with a healthy appetite for kiwis is the villainous disturber of this peace.

When Tusk Features snaffles Tiki and his friends from the zoo in the dead of night, Tiki luckily escapes. And where better to begin the search for his companions than in Auckland, armed with a bow and an unlimited supply of arrows with which to kill the meanies infesting each level. These include creatures as diverse as snails, frogs, penguins and china dolls. Some run around on their own legs (two or four), others ride around on a weird and whacky array of transport (everything from balloons to geese).

As Tiki leaps around from platform to platform in five locations shooting, baddies often leave behind fruit (for bonus points), or a variety of bonus objects including lasers, bombs and a fireball-spitting wand, and an alarm clock which stuns the baddies for a few seconds when collected. But as kiwis don't fly Tiki moves about in a pair of trendy blue trainers which enable him to leap and bound. Often, however, dead ends pose a problem which can be overcome by hitching a ride on a balloon supplied at the bottom of steep inclines, or by killing one of the airborne creatures.

Watery obstacles are tackled by donning an aqualung, but the amusingly designed and detailed aquatic meanies

Don't be fooled by the cute 'n' cuddly appearance of* The New Zealand Story, *Ocean have done the impossible and improved on the arcade machine in this highly playable game

The Games Machine
TOP SCORE

Shock horror headline starts war to death

GEMINI WING

Virgin/Mastertronic

Reading your gutter-press Sunday paper, you may never have realised that those 'alien restaurants on the moon' stories can have some nasty comebacks. For years now, the *Soonday Spirit* has printed smear stories about our stellar cousins. Tolerant beings, they ignored till one day a journalist coined the headline 'Die Mutant Alien Scum'.

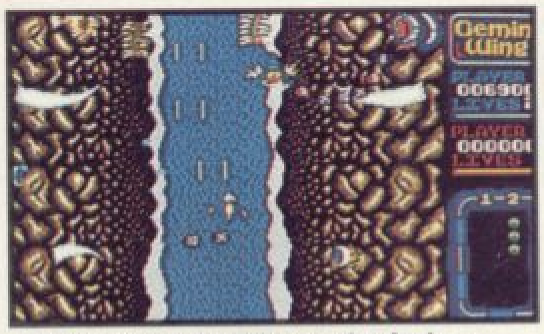
All hell was let loose, the aliens declared war on Earth and prepared for an easy victory. But rather than read the *Soonday Spirit*, they would have been better off watching Earth's weapons technology development. The Gemini Wing project was ready and launched against the aliens without delay. As a Gemini Wing pilot you are sent (with or without a companion) into the dimensional voids to shout the official Gemini Wing battle cry 'Die Mutant Alien Scum' (and kill a few of course).



Prepare for a journey into a weird alien dimension where level after level of pissed off denizens wait to blow you away. The action takes place in many exotic vertically scrolling locations, and the aliens aren't the only hazards. Gun turrets, walls of stone and flame as well as mean end-of-level fatties vie to bring about your demise. Your standard weapon is a twin laser set up, but due to a strange warp in temporal logic gunballs (extra weapon pods) are occasionally created.

There are three ways to gain these gunballs: first, shoot certain aliens as they hover; second, shoot aliens called Bringers, which drag a string of eight gunballs behind them; third — despicable but sometimes necessary — nip behind your partner in two-player mode and nick his gunballs.

Gunballs include three-way fire, 2000-, 5000- and 10000-point bonuses, alien-



With identical graphics on the Amiga (beft) and the ST (above), it's the blocky C64 game (right) which suffers most

seeking missiles and the awesome windscreen wipers of death.

A wonderful cartoon-like quality enters with the end-of-level nasties: large centipede-like creatures, something resembling a walrus and a huge sentient battle craft. The going gets very tough, especially on later levels, but *Gemini Wing* is playable

SPECTRUM 69%

£9.99 cass, £14.99 disk

With a good title tune on the 128K version, the Spectrum game's every bit as tough as its big brothers, though the action slows down a touch when a lot of aliens are on the screen at one time.



are as dangerous as their landed cousins. Watch out, too, for the oxygen level in the status panel, stay under water for too long and Tiki flaps his little wings in a vain attempt to reach fresh air.

A kiwi friend is saved at the end of each level, and at the completion of every four screens a fatty appears to have a go at stamping Tiki's card.

Right from the start *New Zealand Story* (can you think of a less hard-sell game title?) had the TGM office in turmoil, with everyone fighting to have another go. It may sound like just another platform game, but its excellent graphics and tunes coupled with the compulsive gameplay make this one you must add to your software collection. The arcade original was very good, but Ocean seem to have done the impossible and improved on it.

MC

£24.99 AMIGA **90%**

Once you've recovered from the shock of seeing sunglass-wearing teddies, goose-riding penguins and firework-lobbing crabs, the sheer playability drags you in and refuses to let go until you the game's completed. If you liked the arcade original this is the game for you, and if you never heard of Tiki and Co, this would be a good time to get acquainted.

OTHER FORMATS

The Commodore 64 version should be available by the time you read this, priced £9.99 cass, £14.99 disk.

enough to stop you feeling the old why bother' frustration. With a lot of coin-op conversion releases around at the moment, we're glad to say that Gemini Wing is one of the better examples.

MC

£9.99 cass, £14.99 disk C64/128 **62%**

Although colourful, the famous blocky sprites make it a wee bit difficult to avoid danger at times, and the multi-load is a bit of a pain. Worse still, there's only a one-player mode, which kills the point of the game a little.

£19.99 AMIGA **71%**

The graphics are colourful and the ingame tunes are jolly, but the Amiga version gives us the impression that the machine hasn't been used to its full potential. Still the game is very playable, and that's what counts at the end of the day.



£19.99 ATARI ST **71%**

The alien horde swoops around with great zeal creating havoc for an unprepared player. A pleasant tune plays throughout the game, and the graphics are of the same cartoon quality as the Amiga's.

OTHER FORMATS

The Amstrad CPC version (£9.99 cass, £14.99 disk) should be available by the time you read this.

VERSION UPDATES

ATARI ST
Hawkeye

THALAMUS ■ £19.99
Commodore 64 80% — TGM009, Amiga 81% — TGM020



In retrospect, having waited so long for it, perhaps the Amiga version was overrated compared with its C64 original — and the delay has made Hawkeye's parallax scrolling seem less than exciting in comparison to other 16-bit releases. In most respects graphically identical to the Amiga game, the only real difference lies in the title tune (though neither of the 16-bit versions are quite as good as the C64's tune).

Machine Update 78%

AMIGA
Grand Prix Circuit

ACCOLADE ■ £24.95
PC 64% — TGM015, Commodore 64 47% — TGM017

Budding Amiga Mansells may well cheer its appearance, but the rest of us will probably carry on snoozing. Not that the game's awful, it's just that we've seen it all before guys. There have been almost as many racing games on home computers as shoot-'em-ups, and frankly these days a game has to be something pretty damn impressive to stand out in the crowd. One for diehard enthusiasts only.

Machine Update 51%

AMSTRAD CPC
Eliminator

HEWSON ■ £9.99 cass, £14.99 disk
Atari ST 92% — TGM011, Amiga 84% — TGM015, Spectrum 79% — TGM018

The blocky and rather gaudily coloured sprites don't bode too well for the CPC version of this game, and first impresions aren't helped by explosions from incinerated enemy craft lingering onscreen too long. But the action is fast, the enemy enthusiastic and the going tough. It still rates in gameplay, but the Amstrad version is definitely lagging behind the others.

Machine Update 67%



PRESS ANY KEY

It's a megab- er, a hot shoot-'em-up

CHARIOTS OF WRATH

Impressions

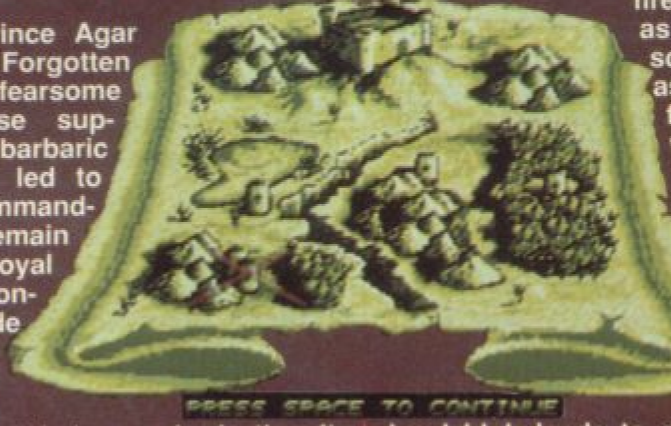
Impressions themselves escaped the wrath of Mirrorsoft/Imageworks in a recent software wrangle. Because the shoot-'em-up section of this game bore a marked resemblance to the forthcoming Bitmap Brothers game, *Xenon II — Megablast*, one or two changes (thankfully minor) were required before Mirrorsoft's solicitors were satisfied that the two games were adequately dissimilar. And so the story of the Chariots Of Wrath can be told.

You are Prince Agar of the Forgotten Kingdom, a fearsome warrior whose supposed barbaric actions have led to the king commanding you to remain within the royal castle's confines. Aside from the tedium of restraining your macho, battle-hungry body, the situation worsens when your betrothed gets kidnapped by the Baron. You treat the dilemma as any hero would and go in pursuit of your princess (well there wouldn't be much of as game if you didn't).

Standing in a castle corridor, various defendants try and stop you from leaving. As they jump out from behind walls you aim your light-bolt gun with crosshairs, each adversary needing multiple hits to destroy.

To simulate breaking through the castle battlements you play a Break-Out game, with the now obligatory bonus pods to collect and baddies to avoid — here in the shape of arrows.

For the main sections of the game you take to your spacecraft and battle through vertically scrolling scenes, whereupon all forms of enemy open fire, both stationary as part of the landscape and mobile as part of a flight formation. A weapons pod occasionally rolls by giving icons for increased firepower, moving outriders, multiples etc. Defeating the end-of-level blob leads to another *Break-Out* screen, then a horizontal scroller where you collect energy pods to fuel the ship. They must be collected within a time limit, and falling from one of the precarious platforms on which they lie is only all too easy to do.



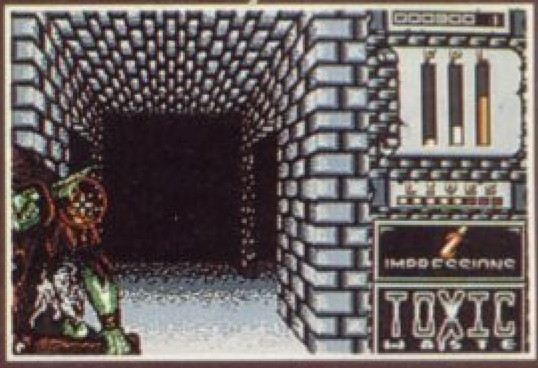
You then proceed to another vertical shoot-'em-up section which is followed by a simple *Asteroids* clone. The game progresses, slotting in the various sub-games in between the vertical scroller, until the Baron's castle is reached and your beloved rescued.

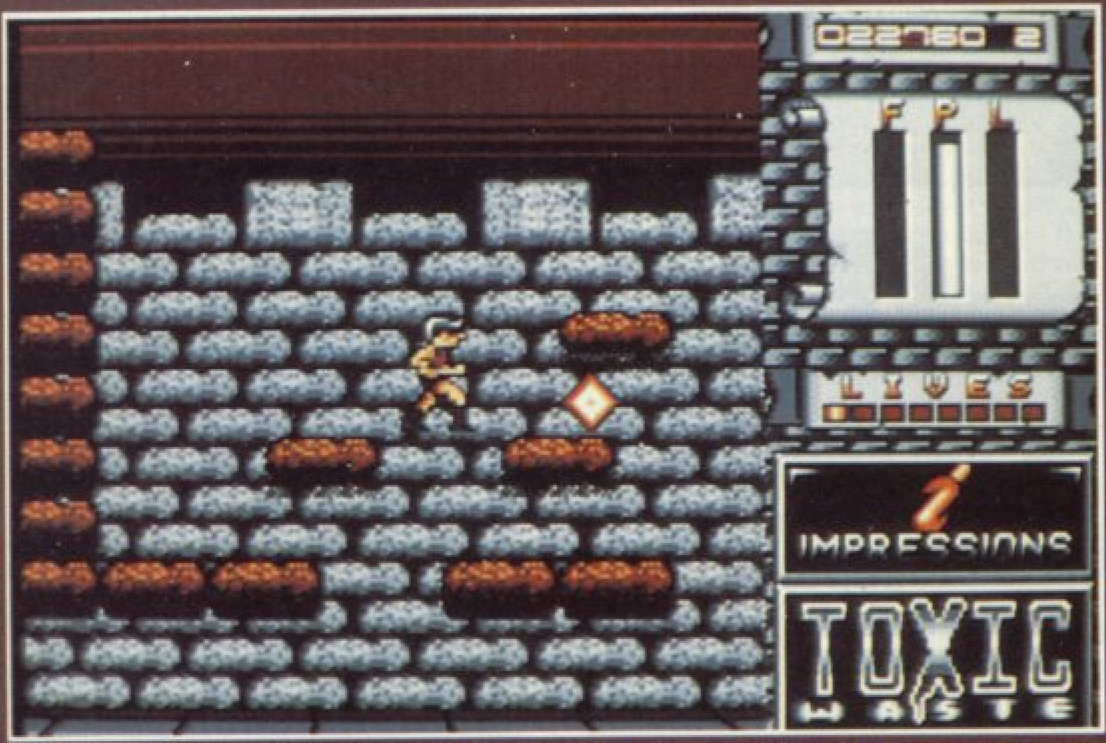
Impressions obviously thought a shoot-'em-up in itself just wasn't enough. While the shoot-out in the corridor is quite enjoyable and reasonably appropriate to the cliched fantasy/sci-fi scenario, a Break-Out stage is a strange and unwanted choice of bonus. The platform stage's time limit is too tight and the margin for error too small, and it's most infuriating to be sent back to the start of the stage when you fall or run out of time.

Thankfully, it's worth fighting through whatever faults the low-key sections have because the shoot-'em-up is indeed a great blaster. It's by no means original but graphical presentation is near faultless and playability is high, putting unusual opponents over imaginative backgrounds to be blasted away by often VERY heavy firepower.

We wait with breathe duly baited for Xenon II — Megablast, but in the meantime *Chariots of Wrath* is a quality shoot-'em-up, complete with interlude stages, which is bound to satisfy.

WL





By no means original but graphical presentation is near faultless and playability is high

£24.99 — **ATARI ST 77%**

The characters in the first section, the shoot-out, are bright and characterful and their instantaneous appear- and disappearances lend a nice cartoon-like air. The platform stage's sprite is crude and blocky, though, and the background graphics for that scene, like the Break-Out variant's graphics, are unsophisticated and rather drab. This is more than made up for with the blaster, with bold and colourful sprites and backgrounds and smooth three-layer parallax scrolling. The graphics in the second shoot-'em-up level are brilliantly defined — a huge crab and frog in the background, realistically drawn, and superbly shaded turtles attack. The amount of objects onscreen when firepower is built up is quite impressive, and even though things noticeably slow down at times, it never fails to be a hectic blaster. Sampled spot effects are adequate and forgettable, but the music isn't bad at all. A pricey but entertaining game.

OTHER FORMATS

Amiga, also at £24.99.

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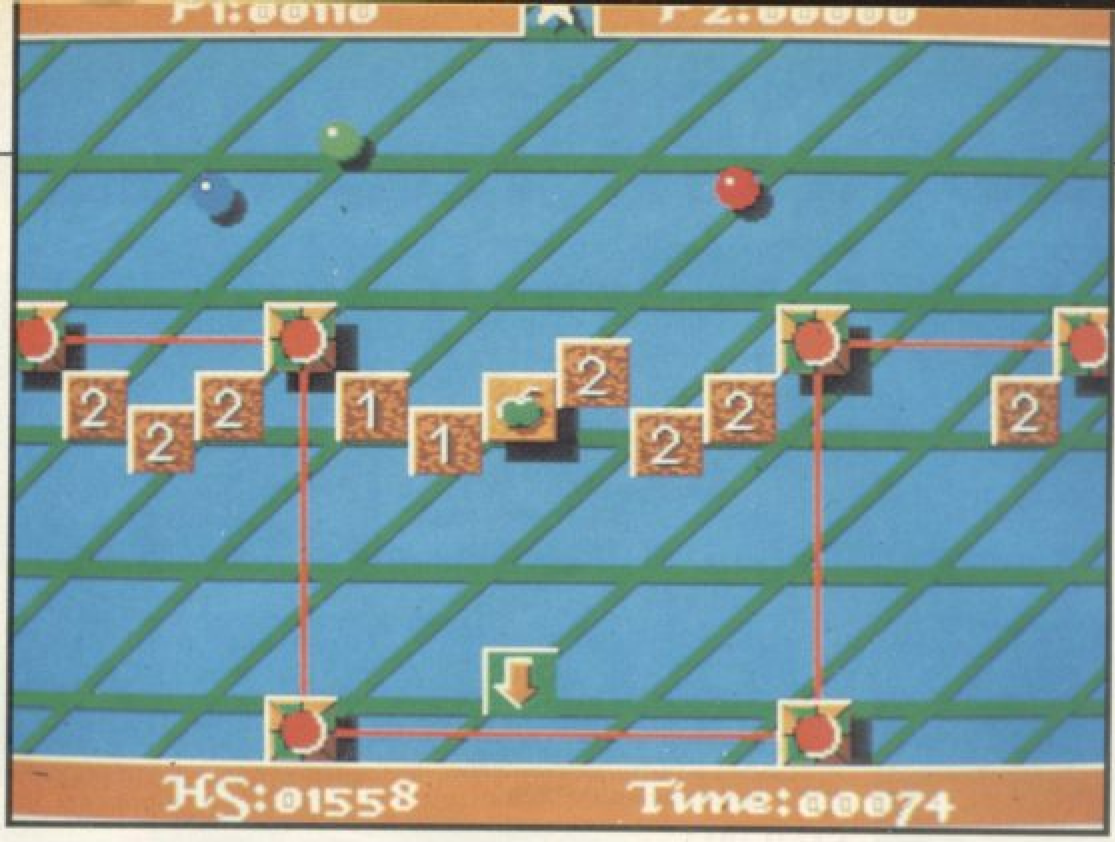
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A night on the tiles

BEAM

Magic Bytes

In a mysterious artificial world far away from our own, you have been chosen to battle through 27 levels packed with lethal dangers never before witnessed by sane man. But there's no time to waste fretting about what lies ahead of you as you leap into the cockpit of your streamlined battle craft and prepare for some action.

After a choice of playing either solo or against a friend, you're faced by a screen filled with blocks (which have various functions), energy stations and very vicious killer pods. The aim of each level is to connect the energy stations to one another under the dubious attention of tiles and killer pods. Many tiles are stationary, including dead stones (kill on contact), magnets and friction tiles. Mobile hazards include movers, alko(hic)holics and stoppers. Few tiles (apart from the deads) do you any real damage, they slow you down enough to allow the killer pods to attack.

How to play? On the job, head for the orange coloured energy station and whack into it. Your craft turns orange, so whizz to the empty station opposite it and — hey presto — a beam of laser energy links them. Carry on like this until all the energy stations are linked, then prepare to tackle the next level.

For the first few games *Beam* certainly makes you realise how rich in cuss words

C64/128 74%

£9.99 cass, £14.99 disk

As colourful as its 16-bit cousins, this is one of those cases where for some indefinable reason the technically lesser machine has the better game in playability.

AMIGA 72%

£24.99

There's little to choose between the two 16-bit games, but shading on the Amiga is a touch subtler than the ST's, and the in-game tune is heartwarmingly good.

OTHER FORMATS
No other versions are planned.

'Five and seven, fifty-seven...'

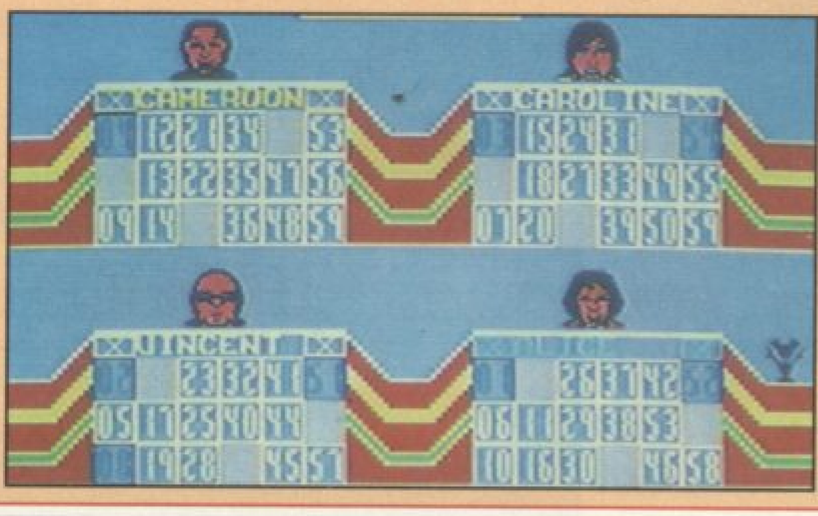
BOB'S FULL HOUSE

TV Games/Domark

Anyone remember the good old days of *Celebrity Squares*, when Bob had just began his career as a quiz show host? From the money-filled briefcase of that glorified noughts and crosses via *Mr Babbage*, the *Family Fortunes* display computer, Mr Monkhouse has reached the dubious heights of hosting *Opportunity Knocks*, so Bob Says. Then, of course, there's his *Full House*...

For one to four players, the computer makes up for any lacking numbers. Each player has a bingo card with 15 numbers which are lit by answering various factual but often trivial questions.

In round one, the aim is to light the four corners of your bingo card. A question is asked in the text area at the bottom of the screen and the first person to press their buzzer (an allotted key) enters the answer via the keyboard. To help you, the answer is marked out with dashes and spaces (like Hangman). An incorrect answer throws the question open to the buzzer again and you're 'wallied' — unable to answer the next question. These rules also apply to rounds two and three.



The middle line of your card is the target in round two, where each player is asked questions individually. Card numbers correspond to different categories (which change occasionally), so the number you chose determines the subject.

It's a free-for-all, quick-fire round next until someone completes their card and wins the game. They go on to the Golden Bingo Card, where there are 15 questions to answer in one minute. On a correct answer the clock stops and a number nominated to either gain the equivalent in cash or reveal a letter. The letters, with luck, eventually spell out the location of a holiday.

As opposed to *A Question Of Sport*, *Bob's Full House* varies little from just

C64/128 54%

£7.95

The title music bursts forth as the game, with great eventuality, finishes loading. This piece and the in-game jingles are fun and well composed — audio is the game's best feature. A robotically animated Bob face captures some of the character of the man when questions are being displayed, but the angled view of the contestants shows them as an ugly mass of pixels. Their portraits are quite amusing, however, despite overly comical definition. A weird little creature unique to the C64 version is 'Acid House Mouse', a black rodent who prances around the contestants' desks.

your vocabulary is. The anarchic ship zips around the screen so wildly that for the first few attempts you bash into the baddies more than the other way round. But veterans of other such seemingly uncontrollable games as Asteroids, Oids and Thrust will soon pick it up. Although tough at the outset, Beam provides a fairly stiff challenge to those willing to persevere with the frustrating controls.
MC

A night on the tiles is acceptable fun on the ST (left) and Amiga (below)

£24.99 — ATARI ST **72%**

Beam is a very colourful game with pretty backdrops, vicious Killer Pods and annoying tiles. The tune which plays throughout the game does tend to become teeth gratingly annoying after a while, but the volume button soon sorts this out.





A full house on the C64 (below left) and the Amstrad (above)

straightforward questions and answers so is easy to translate effectively to computer. Clear displays of bingo cards and questions are all that's necessary to capture the essence of playing Bob's game but TV Games have put a heavy emphasis on keyboard skills; multiple choice answers would have been far superior for most gamesplayers.

The questions themselves are loaded separately from the main program — much waiting is involved here. This would be bearable if not for the fact that the questions soon repeat themselves, a fault which will hopefully be rectified with question data-cassettes.

As a one-player game, *Bob's Full House* is of little interest, but with friends the competitive spirit jollies things along for a while. Ultimately, the limited question range and essential typing skills spoil the possible value of the product. Sorry, TV Games, you've been wallied
WL

£7.95 — SPECTRUM **52%**

The rectangular shape of bingo cards allows easy use of colour without risk of colour clash, but the LCD-style segmented numbers make an irritating mass of small angular shapes. The black-and-white faces are reasonable but could have been more carefully drawn and better animated. The sound's crude even for a Spectrum.

£7.95 — CPC **57%**

While not overwhelming in the colour department, the Amstrad's graphics are very neatly and clearly done, making it the most visually pleasing version. Although the contestants lack detail, Bob's visage is large and is a great pixelisation (if you'll excuse the word), but all people twitch nervously as if restraining a sneeze. Considering the CPC's sound limitations, the theme tune is a good rendition of the TV original.

VERSION UPDATES

PC
STARRAY

Logotron £29.99
Amiga 79% — TGM 011

In this Defender-inspired game cyan and dark blue are the predominant colours (even in EGA mode), and without a joystick it's tough to play because the keyboard functions are difficult to master. There are several Defender-style games on the market, unfortunately StarRay on the PC isn't one of the better ones.
Machine update 58%

AMIGA
SDI

ACTIVISION ■ £24.99
Atari ST 56% — TGM014, Spectrum 37%, Commodore 64 56%, Amstrad CPC 29% — TGM018

Taken from the Sega *Global Defense, SDI* boasts impressive graphics and professional presentation, but this does little to disguise the thin and repetitive gameplay — something it has in common with the ST version. In fact the major differences — as is so often the case — are to be found in the in-game tunes and sound effects. Little more than a modernised *Missile Command, SDI* looks good but doesn't taste the same.
Machine Update 57%

COMMODORE 64/128
American Indoor Soccer

MINDSCAPE ■ £9.99 cass, £14.99
PC 69% — TGM022

Chubby players look like adolescent girl players, complete with hockey skirts, and run like they're wearing wellies full of custard. That is, until someone scores, then half the sprites run around in a simualcrum of a Benny Hill scene. Effects and music are both very basic and are from somewhere in the early, early days of C64 gaming. Happily, this is one of those quality strategy/management games with a touch of arcade, meaning that depth outweighs any visual(/aural) weaknesses.
Machine update 66%

SPECTRUM ■ AMSTRAD CPC ■ ATARI ST
Dominator

SYSTEM 3 Atari ST £19.99
8-bits £9.99 cass, £14.99
Amiga 87%, Commodore 64 87% —TGM020

No surprise from the ST: graphics of the same unusual design as the Amiga but a little lacking in detail, though scrolling and movement is fine. The Spectrum assigns different colours to neat scenery and different types of ship which generally works quite well. Near-misses with other objects sometimes cause attribute problems, however, and player missiles and resulting explosions are often of bizarre and changing colouration. Amstrad graphics are not a pretty sight. Although scenery uses colour well, it scrolls slowly and jerkily while blocky sprites take part in a game too awkward and boring to play. Sound on all versions is average for the particular machine but CPC effects are notably poor —piercing and messy.

Amstrad CPC owners steer clear; otherwise, *Dominator* is another in the long, long (long) line of decent but unremarkable shoot-'em-ups.
Machine update: Atari ST 75%
Spectrum 68%
Amstrad CPC 40%

A new head-scratching maze

LEONARDO

Starbyte

Judging from its title, you could be excused for thinking, as we did at first, that *Leonardo* is the latest art utility. In fact he's the game's anti-hero, a roguish character whose only aesthetic quality is the highly illegal and morally dubious 'art' of burglary. With a taste for jewels and gems, cash and coins, he must tread carefully as he gather his loot for fear of capture by the law — or even ghosts!

Each of the 50 maze-like four-way scrolling levels has boulders interrupting his stealth-footed path but he has the considerable strength necessary to move them. His muscle is so great that they keep moving till they hit another object, sending the ghost or guard back to their home within the level — the Watchman Lodge — if timed properly. He can even crush the hunks of rock into dust!

His pushing power is essential to complete levels. The main type of treasure on each level is gathered together in a line, a task requiring planning, strategy and judicious positioning/demolition of boulders.

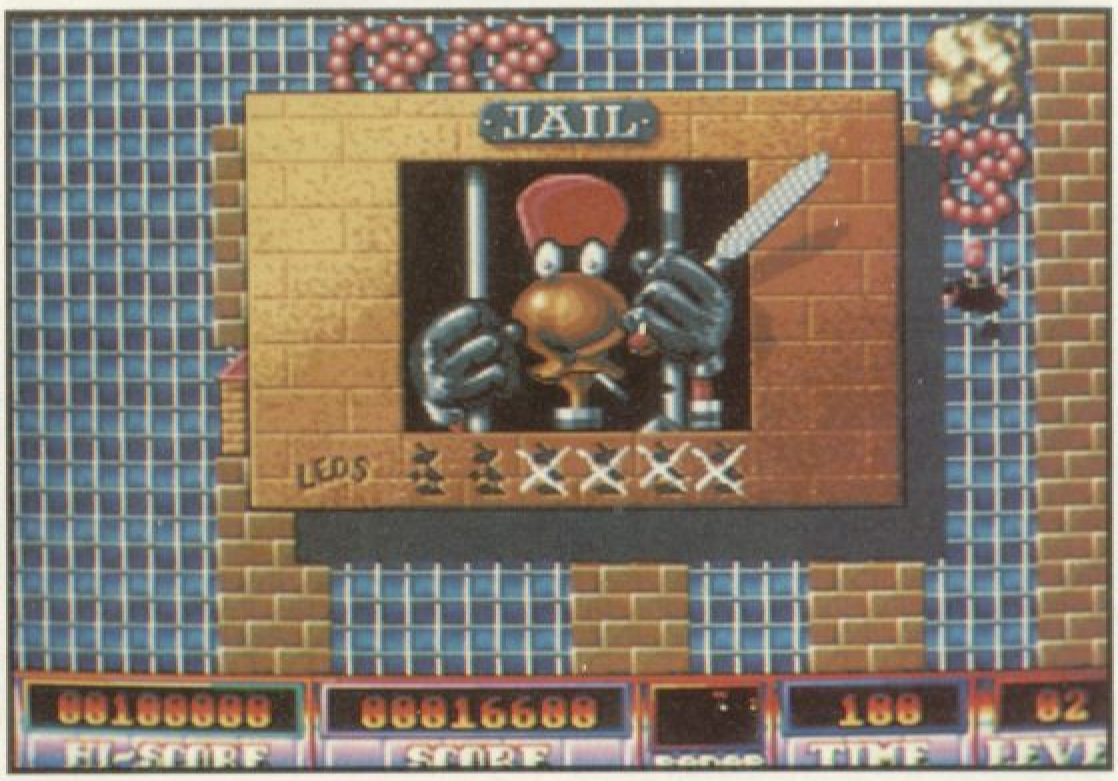
Movement around levels is assisted by manhole covers — an 'in' cover transports Leo instantly to an 'out' — and a radar device. Leo, the treasures to be gathered and the bad guys are shown on the radar screen but, as Leo made it himself, it often malfunctions.

Objects to find on each level include valuables for extra points, anti-guard dynamite to send ghosts and guards to the Lodge, and paralysing rock to temporarily freeze them.

Leonardo has strong similarities with Logotron's *Xor* and its sequel, *Prospector In the Mazes of Xor*, mixed with a touch of *Boulderdash*. Starbyte's release has fewer puzzle elements than *Xor* but is still as brain-testing through the difficulty of gathering treasures in a line. There's little time to stop and think with the marauding ghost and guard tracking you and a time limit for the level, so the destination for treasures has to be calculated while on the move.

This game is far from easy and often frustrating, but if you think you can tackle head-scratching manipulative puzzles while dodging relentless enemies, *Leonardo* will keep you happily and busily occupied for hours.

WL



A heavy cross to bear on the dusty grail

INDIANA JONES AND THE LAST CRUSADE

US Gold

US Gold's last Indy game was a disappointment, and there must be something in the theme that jinxes games designers, because — it has to be said at the outset — this newest one is its equal in the let-down stakes.

If you have seen the film, you'll be able to identify the obvious game sequences, as Indy Jnr (the lad), Indy Jnr (the man) and Jones Snr tackle the Nazis in the attempt to get the Holy Grail first. The game has four distinctive levels, first set back in 1912 where the teenage boy scout Indy discovers a group of treasure looters in a spooky cavern searching for the Cross of Coronado. Indy, of course, must find it first... and escape.

Obstacles natural (falling stalactites, chasms etc) and man-made (collapsing bridges and the thugs) thwart his plans. But escape with the Cross he does, onto a circus train where he discovers his phobia of snakes and that a whip is useful to divert a lion's attentions.

Thence to 1938 as World War II looms, and the adult Indy is searching Castle Brunwald for the Knights Templar's shield which should offer clues as to the whereabouts of the Grail in the Jordanian desert. It was here, in the film, that Indy rescued his father (admirably played by Sean Connery in the movie, but sadly lacking in the game). Nazi troops, rats, fireballs and lightning make reaching level three — the Zeppelin — difficult.

Aware of his presence, the Nazis order the airship taking Indy out of Germany to return, and the search is on for Dr Jones Snr's diary containing his notes on where to find the Grail. As Indy wanders through the Zeppelin looking for a handy plane to escape in, he must top up his supply of passports (Indy fans know what happens to people without tickets!) because if the passport icon in the display panel disappears completely an alarm sounds and all hell is let loose.

The final level is set in the temple where the Grail resides, guarded by those whirring blades, collapsing tiles and the rest.

Digitized pictures of Indy add the best touch to what is a very average platform game. After all the hype it was fair to expect something special, but although *Indiana Jones and the Last Crusade* is graphically reasonable, its predictable gameplay sags, leaving only frustration when Indy gets killed for the umpteenth time. We're hoping for something much more exciting from the Lucasfilm adventure game.

MC

SPECTRUM 46%

£8.99 cass, £12.99 disk

Predictably monochrome (and not necessarily a drawback), colour isn't the only missing thing: what happened to the stalactites that plague the first level of the 16-bit versions? More seriously, why is Indy an adult and not a boy scout? Movement is also on the slow side especially when Indy whips a bad guy; not very impressive.



Reminiscent of Boulderdash*: Leonardo can give you pause for thought — Amiga*

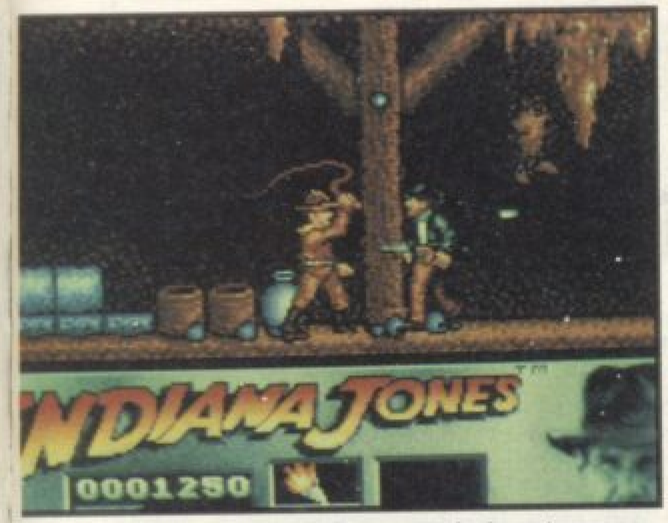
£19.99 ATARI ST 77%

In a clever intro sequence Leonardo walks up to his house and smokes a cigarette before entering and switching on a neon sign. He's an amusing sprite and well animated — the guard is of equal quality but the ghost is roughly drawn. Backgrounds are gaudy patterns which don't help concentration, but walls and objects are adequately fashioned. Sound effects are weak, what few of them there are, but music is well composed — busy yet soothing.

£19.99 AMIGA 78%

Although the entire screen area is used, graphics are only marginally improved — most noticeable in the game intro. Sound is vastly improved, however: three tunes that are not only very well written but also use great sounds. Fantastic stuff. On the minus side, the bad guys are faster than on the ST version, making a difficult game tougher still. Ah well, them's the breaks.

OTHER FORMATS
C64 (£9.99) and PC (£19.99) over the next couple of months.



Disappointing: the young Indy gets cross

£19.99 ATARI ST 48%

Throughout, its graphical detail leaves much to be desired — Indy sliding across the floor without moving his legs and the amazing static waves on Level One which surely could have been animated. These omissions apply to all versions of this drearily repetitious game.

£9.99 cass, £14.99 disk AMSTRAD 38%

A colourful loading screen promises a good game, but its actual appearance makes it look like a direct port over from the Spectrum — and movement is even slower, with Indy swashbuckling at the speed of a crippled snail. See the movie, but approach the game with caution.

£19.99 AMIGA 48%

Additions to the ST game are a couple of extra sound effects, such as the 'Indy walking on cornflakes' effect when he moves. The same's true with the admittedly nice digitized pictures — but how much nicer some real gameplay would have been.

OTHER FORMATS
Expect the C64 (£9.99/£14.99) and PC (£24.99) versions any day.

VERSION UPDATES

AMIGA ■ PC

Kult

EXXOS £24.95
Atari ST 84% — TGM020

With all the great visuals of the ST original, the Amiga version has a slightly larger play area and subtly different colour palette. The same clever sound effects have been used and there's also a nicely composed Jean Michel Jarre-style title music, brimming with good instrument samples. It's a shame similar compliments can't be given to



the PC. Other than Hercules Monochrome, only CGA graphics mode is supported. While purple and cyan suit some of the stranger biological creatures and everything is well drawn, EGA would have generated a much better playing atmosphere. Effects are percussive bleeps of acknowledgment.
For both versions, though, the brain-straining, head-scratching puzzles have been reproduced wholly unscathed from the Atari, and that is certainly enough recommendation for purchase.

Machine update: Amiga 85%
PC 81%

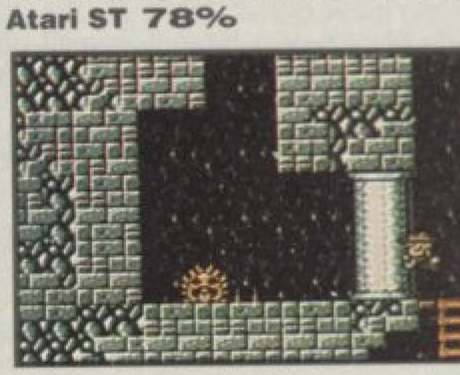
ATARI ST ■ AMIGA

Rick Dangerous

FIREBIRD £24.99
Spectrum 78%, Commodore 64 81%, Amstrad CPC 76% — TGM020

Although the scenes surrounding our jovial junior Indy scroll intermittently — and then jerkily — they make good use of colour, with effectively shaded rocks, wood and so on. Detail is packed into the sprites and gives them a cartoon flavour. Title music is simple yet fun, and effects samples include a great richocheting pistol shot and an amusing 'Waaaaghh!' as a killed character falls off-screen. The playing area is actually a little smaller on the Amiga, almost square. Title music is irritating — poor sounds — and there's the addition of an inappropriate jump effect. It's expensive for what it offers but, *Rick Dangerous* is a good, old-fashioned, highly-playable arcade exploration jaunt.

Machine update: Amiga 76%
Atari ST 78%



Nightmare on fun street

FIENDISH FREDDY'S BIG TOP O' FUN

Mindscape

Having been sacked for incompetence Freddy the clown has decided to take revenge on the circus, a task simplified by its financial difficulties with a bank loan. If 10,000 dollars isn't earnt very soon (ie tonight), the big top will be forced to close... permanantly (sob).

You, the player, guide six of the circus's various artistes and attempt to perform as spectacularly as possible so as to draw in the crowds and pay off the debt. Meanwhile Fiendish Freddy does his level best to spoil the acts.

In Diving you attempt to dive artistically into a receptical, while Freddy interferes by using a large electric fan to blow you sideways. Juggling takes place on a unicycle as you catch balls and clubs thrown by a seal and press fire to launch an object into the air when your hands are full. Freddy occasionally tempts the seal away with a fish, allowing him to throw his own items your way — a missile or fizzing bomb!

On the Trapeze a well-timed button press sends you through the air to catch hold of the next flying trapeze. Freddy pilots a strange flying contraption and if you're too slow he snips the trapeze wires with the giant scissors built into its front!



The Games Machine STAR PLAYER

In Knife-throwing the object is to burst balloons tied to a revolving board, but it's all too easy to mistime and hit the lean, lightly tanned body of the dumb broad who's allowed herself to be manacled to it. — especially when a certain maniacal clown throws a bomb at the giant wheel!

You can balance on the Highwire while Freddy throws bombs in your direction, and round off the performance by jumping into a squat cannon for gun powder-powered flight. The safety net is a rather unforgiving device, to say the least — it's a brick wall, and it's position is quickly set or Freddy arrives. Too slow and he blocks the cannon with a giant cork, causing it to backfire with explosive results.

So soon after the excellent *Circus Attractions* (TGM020) no-one could've predicted the appearance of another multi-event big top game, let alone one better and more fun than the Golden Goblins release. Quality is assured here: Chris Gray, who wrote *Infiltrator* and co-created the all-time classic *Boulderdas*, was the leader of the team who created Freddy's antics.

There are many, many humorous parts within the gameplay but we haven't the space to describe them here; they're a delight you'll discover for yourself. As a one-player game it would soon become tiresome, but with a group of friends — up to five people can take part — it's a great source of entertainment and a unique piece of software which everyone should see.

WL

£29.99 AMIGA **89%**

It has to be admitted that in a number of places frames of animation are lacking and steps in movement are jerky. This doesn't matter, though. Amid huge, brilliantly drawn sprites performing all sorts of wild and wacky deeds, any faults disappear. Music is jolly and has an authentic circus atmosphere while sampled effects are fittingly silly. On the expensive side but truly an interactive computer cartoon.

OTHER FORMATS
Atari ST and PC (Amiga price) within the month.

Join the rotory club!

MR HELI

Firebird

The hero of this push-scroll shoot-'em-up is an aimiable, rotund man-helicopter, a member of the Cosmic Heli Patrol called upon to save the innocent inhabitants of a distant and idyllically green planet.

'The Muddy' — a bizarrely-named mad scientist — leads a band of twisted followers with a predilection for destroying life in whatever form they find it. It's your job to help man-'copter Mr Heli do it to them before the mudders — as they're colloquially known — do it to the animals.

The scrolling is mostly horizontal but sometimes vertical. Heli begins with forward- and upward-firing cannon to destroy enemies, but blasting certain destructible parts of the scenery reveals blue crystals. Collected, the crystals are worth dollars to be spent at single-product shops. These too are initially hidden within rock walls, but when hovered upon, with enough money, bonuses are gained.

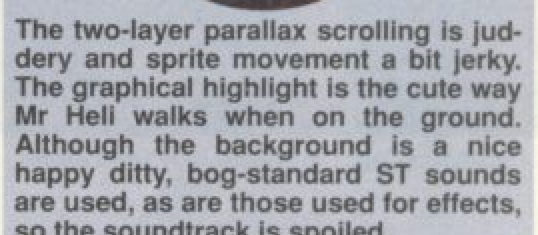
It's rare these days to find an air/space shoot-'em-up that push scrolls, so at least with that in mind *Mr Heli* has some originality. Excuse it, though, and the game is very similar to Level One of))Blood Money((. It's a shame it isn't as enjoyable as that 90% Star Player (TGM019). *Mr Heli* never rises above average, the vague attempt at a cute progressive shoot-'em-up failing dismally, and no substitute for unusual menacing monsters. Although the various displays take up little screen area, when combined with the bulky scenery the game plays quite claustrophobically and there's never enough room to manoeuvre properly.

WL

OTHER FORMATS
Spectrum, C64, Amstrad and Amiga all available soon, at standard full-price.

£19.99 ATARI ST **65%**

The two-layer parallax scrolling is juddery and sprite movement a bit jerky. The graphical highlight is the cute way Mr Heli walks when on the ground. Although the background is a nice happy ditty, bog-standard ST sounds are used, as are those used for effects, so the soundtrack is spoiled.



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Office of Fair Trading

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SOFTWARE SNAX

NIGHTDAWN

Magic Bytes ■ Atari ST £24.99, Amiga £24.99, Commodore 64 £9.99 cass, £14.99 disk

Nightdawn: a sharp, geometric, synthetic world, a mere projection of a designer's imagination but a visible, tangible, audible planet. Sitting in a cybernetic control centre, you view a robot tank from above, dropped by a freighter onto Platform One, a vast network of corridors floating unaided over the surface of Nightdawn. Your aim is simply to find the exit which leads to the next platform level.

Gates prevent progress, but collecting keys and then passing over the matching switch alleviates the situation. Laser barriers have on/off switches, as do escalators, but of greater concern are minefieids, laid



Hardly a new dawn: ST version

by a mobile, and a patrolling robot.

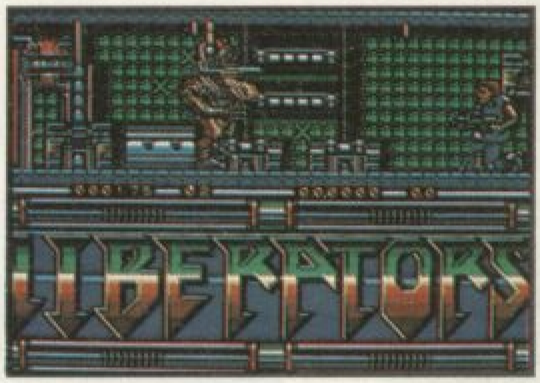
'Kits' are occasionally found to improve your tank. A double cannon arms your initially defenceless vehicle, mine detector reveals concealed mines, and exit indicator and radar both help you escape. *Nightdawn* is a maze shoot-'em-up which puts the emphasise on key collecting and navigating.

Simple bas-relief platforms hover over similarly mediocre ground patterns in the near-identical ST and Amiga games. The parallax scrolling is smooth and swift in the vertical plane but jerks horizontally. Sprites are plain, the tank being weedy and placid in appearance. Average ST audio but the Amiga has a brilliantly over-the-top set of effects samples.

Graphics are simpler still on the C64 and with its long history of bas-relief *Nightdawn* should be more than just blocky angles. Sprites are no better — the robot tank is nothing short of pathetic.

Much better suited to a budget label, it's too old-fashioned and derivative for its own good. **WL**

Machine rating: Atari ST 42%
Amiga 44%
Commodore 64/128 36%



Clive Barker would turn in his self-made grave if he saw the game associated with his cinematic creation

HELLRAISER

Exocet ■ Atari ST £19.95

Completely unconnected with Clive Barker's movie of the same name, the Hellraisers are a motley crew of humans, aliens, cyborgs, robots and Sun readers who spend their time drinking, throwing parties, fighting, eating, watching Postman Pat videos, and oppressing poor defenceless planets. An elite of the Liberator Corps, you're dealing with their latest raid .

For one or two players, the screen is split horizontally to give individual side views of building corridors. Sectors threethrough five are being taken over by Hellraisers to be eliminated as you try to find the exit. There you find a Wasp battle cruiser to clear the horizontally scrolling airspace of Hellraiser ships. Circular symbols are collected for such handy add-ons as bombs or a long-range laser.

This may be a two-part game but it can't disguise the fact that it's a crude rehash of old and overused ideas. The corridor section looks similar to Psygnosis's *Obliterator*, but doesn't play like it because the hero isn't capable of as many actions. 'Horizontally scrolling shoot-'em-up' is really all there can be said about the other plain and instantly forgettable half of the game.

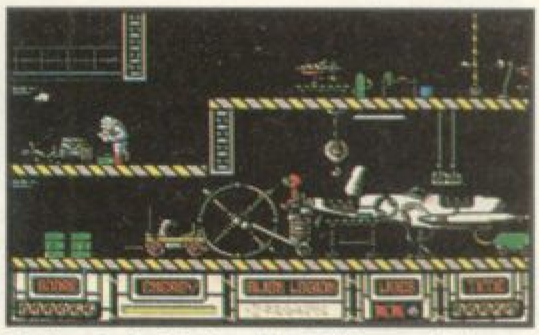
Plain backgrounds of few colours only serve to make the limp cruiser shoot-'em-up worse still. Smooth scrolling is offset by drab sprites and the whole game is scarred with cliched ST sound effects, terrible music and inexplicably lengthy repeated loading. **WL**

Machine rating 34%

ALIEN LEGION

Gainstar ■ Amiga £24.95

Yup, Earth's been caught with its pants down again by a race of psychotic aliens bent on universal domination. With all the soldiers in prison and the population clamped under the green, slimy iron heel only lantern-jawed Captain Cosmose and his trusty laser gun are left to oppose the mechanised might of the galactic con-



Trying to be Exolon, but failing to deliver...

querors.

Cosmose leaps around many platforms, attacked by the alien legions of the title. They include eyeballs on stalks, fellas in red spacesuits with green visors (nice) and rotating spheres.

Destroyed aliens occasionally drop vials containing either red or green liquid. Red reduces Cosmose's energy level, green raises it.

Two words sum up *Alien Legion*: very average. Colourful but comatose, Cosmose wandering around the screen shooting at the odd alien rapidly becomes dismal entertainment. A mediocre *Exolon*-type game that fails to deliver enough to warrant the price tag. **MC**

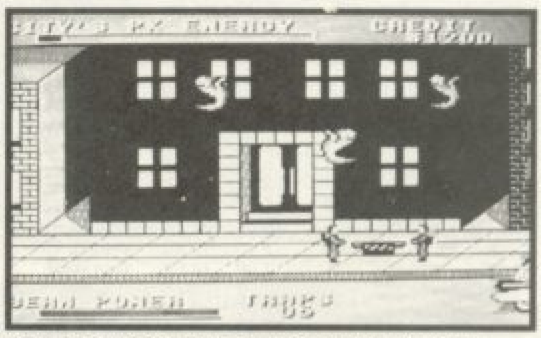
Machine rating 36%

GHOSTBUSTERS

Sega ■ £29.95

It's been a long, long time since this game was first released to become one of the best selling computer games of all time. Despite public acclaim, few reviews really rated it and after all this time it hasn't been improved for its Sega debut.

The rendition of the familiar *Ghostbusters* music is horrendous! Even when it's in tune the dire sounds used ensure a very necessary adjustment of the volume control. Graphics are, without exception, feeble and drab. There's a lot of sprite flicker but at least the scrolling in the car section is smooth. The inclusion of the extra scenes to defeat Gorza is a good idea, as is the shop, allowing equipment to be purchased whenever viable, but five



Old, and if anything, worse than before

ghosts per building makes busting too awkward and frustrating.

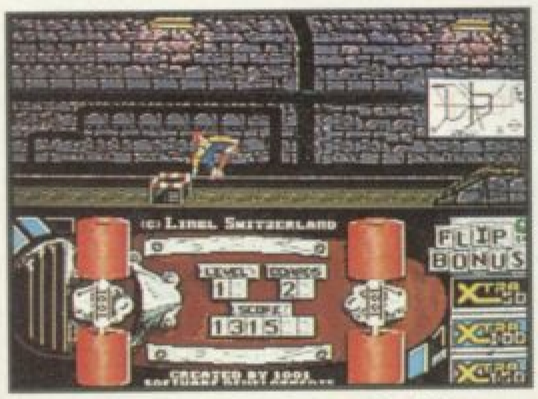
Ghostbusters is an old and simple game anyway, but with poor graphics and sound, and worse gameplay, you won't wanna call Sega's *Ghostbusters*. **WL**

Machine rating 22%

SKATE OF THE ART

Linel ■ Amiga £19.99

It's no surprise to cool radical dudes to find that in *Skate of the Art* your graphic counterpart must tackle the world's most difficult skateboard course — to become the ultimate 'boarder. 20 horizontally-scrolling levels are littered with various obstacles to be negotiated using the moves at your disposal. Against a time limit, points are awarded



The main sprite is far from rad — blue dungarees, yellow shirt, red baseball cap...not helped by his plain definition and poor animation

for stunts and a quick finish.

Bonus screens involve such strange pastimes as skateboard hurdles and crossing a pole by sliding on the perpendicular 'board. *Skate of the Art* plays, and partly looks, like a cross between *Metrocross*, *Kikstart* and, more recently, *Super Scramble Simulator*. The scenery scrolls happily and smoothly by while moves have to be correctly selected and timed — not exactly complicated, brain-teasing action.

This simple, old-fashioned, repetitive game would be dubious value for money if competently programmed, but poor graphics and awkward gameplay mean it'd still be overpriced at £10. Even, or perhaps especially, skateboard fans should avoid this. **WL**

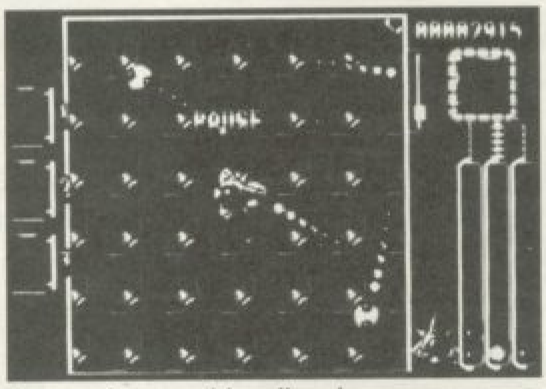
Machine rating 30%

QUARTZ

Firebird ■ Atari ST £24.99

Remember *Asteroids*? *Quartz* looks rather similar in parts. You start at the controls of a ship not blessed with much firepower, but nimble at least in dodging the large, spinning coloured balls called Hadrons which attack from all angles and seem to have minds of their own. Blasting Hadrons breaks them down into Quarks (not quite so dangerous, but they can still make a nasty dent in the hull of your ship). And blasting these releases Neutrinos, which are what you're after, because if enough are collected power-up weapons are tacked onto your ship's hull including grenade launchers, flame throwers, bombs and extra armour.

Now you can get down to the serious business of knocking the stuffing out of all and sundry (while avoiding the rogue Hadrons of course). Up to three power-ups can be collected at one time, so make the most of them, because as soon as the last



Interesting graphics disguise averageness

Hadron's destroyed you're whisked to a horizontally scrolling section where you have to avoid spinning balls trailing glowing 'tails', alien craft et al.

Graphically *Quartz* stands out, especially the spinning balls in the first section, and the power-up weapons certainly help in your task to clear a path, but the game fails to add up to anything really special although it is fun for a while. **MC**

Machine rating 69%

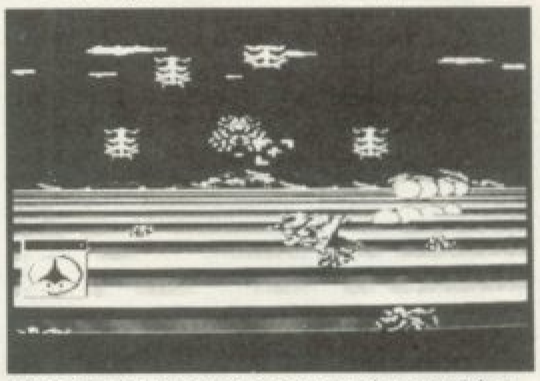
GALAXY FORCE

Sega ■ £29.95

Perhaps Sega's wildest and most groundbreaking coin-op, with the most stomach-churning hydraulic chair, is the space-faring *Galaxy Force*.

As usual it's You against all of Them, and They must be destroyed with whatever weaponry You can lay your hands on.

Of the game's five levels, any of the first



The 3-D routines are poor and everything jerks slowly forward, updating in huge jumps.

four may be selected . Viewed from behind the player's ship, fast approaching obstacles on the 3-D perspective landscape should be avoided, but of course the biggest problems are presented by the enemies. The ship has both homing missiles and a machine gun to deal with them.

You could hardly expect a humble 8-bit Sega to come anywhere near the quality of the amazing *Galaxy Force* arcade machine, especially bearing in mind the console's sprite flicker problem, but the conversion is still a great disappointment. It's not as if the graphics themselves are good. On the whole, sprites and landscape elements are haphazard collections of brightly coloured pixels, and are often blocky. Music and effects are standard Sega — thin and weedy. And gameplay is a merely middle-of-the-road, mildy souped-up *Buck Rogers* variant. **WL**

Machine rating 60%

THE BASEBALL

Sega ■ £24.95

Have you heard of Reggie Jackson? No? Then Sega UK chose correctly to remove all traces of the man who endorsed this game in the US.

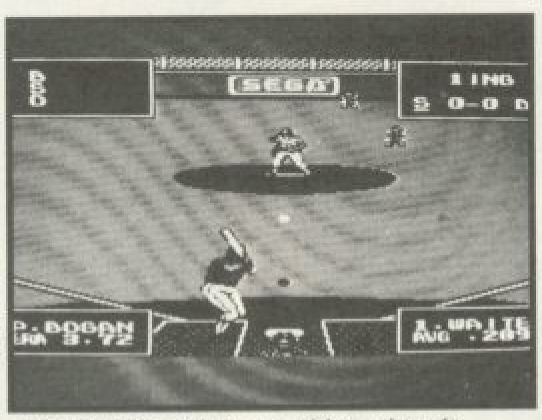
There are 26 teams in memory and they can be chosen to set up one-player, two-player or demo games. When a human takes part he can select whether fielders move automatically or are under his control and who pitches.

In a match, the pitcher can select his favourite throw, or use a curve shot. The pitcher can be substituted if desired. The batter can move left and right on his square and adjust his swing height.

The Baseball boasts some quality speech (for an 8-bit machine) and lots of it; the lively shouts of 'Strike!', 'Play ball!' and 'Safe!' all help generate an atmosphere (and there's more speech besides). The pitcher and batter are detailed and realistically drawn, with animation to match, but fielders are indistinct (it's easy to confuse the two teams) and the crowd is just a mass of flashing colours.

It's competent but a selection of teams doesn't help vary the fairly simple action, which becomes repetitive quickly in a one-player game. Very nice to both look at and listen to, but perhaps too expensive considering the limitations of computerised/consolised sport. **WL**

Machine rating 72%



Nice to look at but repetitive when it comes to the action out on the field

INNER SPACE

CRL/Interactive ■ Commodore 64 £9.99 cass, £14.99 disk

No, not a licence from the hilarious 1987 comedy film starring Dennis Quaid and Martin Short, but a very mediocre blast-'em-up. You're at the controls of a modestly equipped space craft exterminating 130 types of alien scum inhabiting nine horizontally- and parallax-scrolling levels of inner space.

They attack in waves as you attempt to laser them into oblivion. The destruction of a wave reveals a bonus pod; there are seven — smart bomb, shield, speed up, laser, photon pulser, warp, extra life and — a sting in the tail — the loss of a craft. And if this action isn't enough, crack your head on the inevitable end-of-level guardian. Blobby sprites and yawny gameplay conspire to create a comatose state, and even the hauntingly moody title tune fails to spark so little enthusiasm that you won't bother to practice enough to find whether there's more to this universe than life or anything. **MC**

Machine rating 35%

The Games machine

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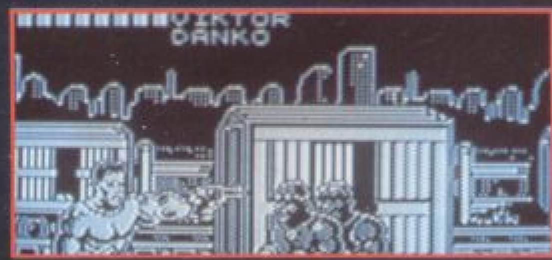
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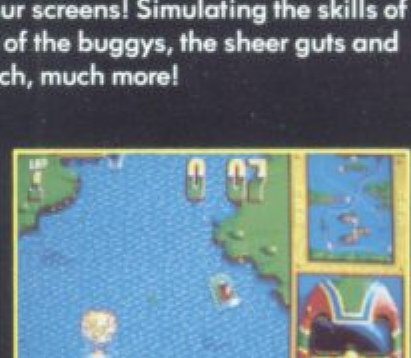
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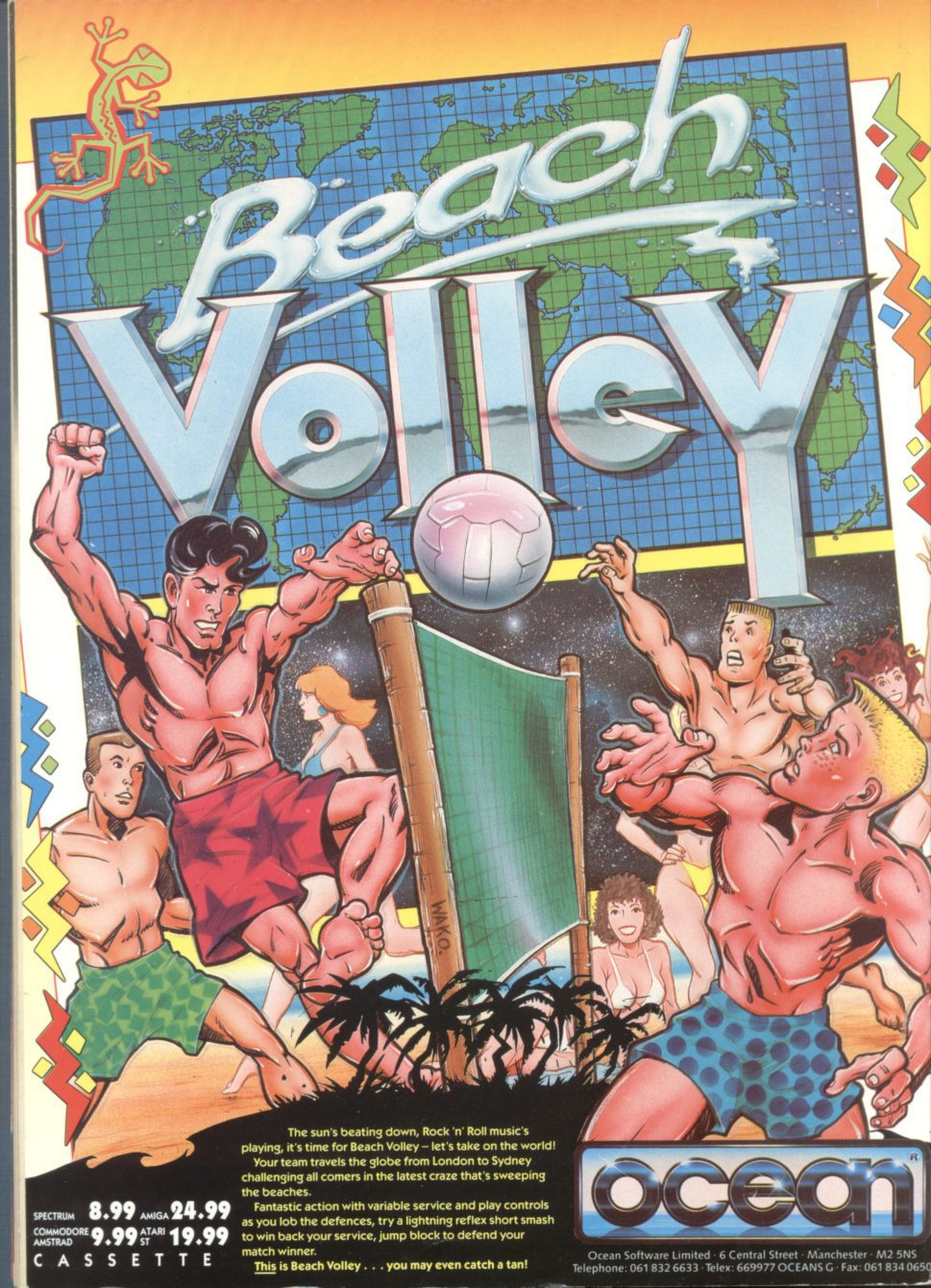
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